

THE
WONDERS
OF
NATURE and ART;
BEING AN
ACCOUNT

OF

Whatever is most Curious and Remarkable
throughout the WORLD;

Whether relating to its

ANIMALS, VEGETABLES, MINERALS,
VOLCANO'S, CATARACTS, HOT and COLD
SPRINGS,

And other Parts of NATURAL HISTORY;

Or to the

BUILDINGS, MANUFACTURES, INVENTIONS,
and DISCOVERIES of its Inhabitants.

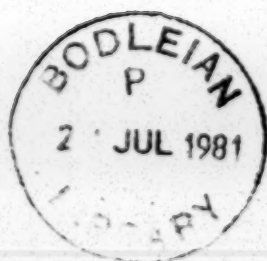
The Whole collected from the Writings of the best
HISTORIANS, TRAVELLERS, GEOGRAPHERS, and
PHILOSOPHERS, among which are some *Original
Manuscripts*; interspersed with pious OBSERVATIONS
and REFLECTIONS; illustrated with NOTES, and
adorn'd with COPPER-PLATES.

VOL. IV.

READING,

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MDCCL.



THE
WONDERS
OF
NATURE and ART, &c.

PART IV.
Of AMERICA.

*An ENQUIRY how AMERICA
was first peopled.*

WE are now come to a Part of the
World, which, though the largest,
and in some Respects the richest of all
the four, is placed last of all, because the last
discover'd, and probably the last peopled: For
whatever some Authors, of more Zeal than
VOL. IV. N^o XLIV. B Dis-

Discretion, may have imagined, that this vast Continent, or at least some Tracts of it, was known to the wise King *Solomon*, it is plain that neither any of the sacred Books, nor of the ancient Historians, have made the least mention of this Part of the Globe. Neither is it likely, that if in *Solomon's* Time a large Tract of it had been discover'd, and a profitable Traffick settled there, as some pretend, it should have ended and died with that Monarch. Nor do we see any Reason to fall in with that chimerical Supposition, that *America* was known to the Ancients; for so large and rich a Continent, once found out, could never be lost again, without supposing an End of the World, and a new Race of People, quite ignorant of the Discoveries of their Ancestors. We may therefore safely conclude, with the far greatest Part of Authors, that this vast Continent, this *New World* (as it is call'd) continued unknown from the Creation to the Year of our Lord 1492, when it was discover'd by the renowned *Christopher Columbus*, of whose Enterprize we have already given a concise Account*.

BUT as strange as the Discovery of *America* may appear, it is still more surprizing to consider which Way it was originally peopled, (supposing the Deluge universal) since it has no Communication, that we know of, with any other Part of the inhabited World. The Na-

* See Vol. I. p. 301.

tives of *America* have very uncertain Traditions about this Matter, but by the great Number of People found there when the *Spaniards* first took Possession of the Country, it is reasonable to conclude it must have been inhabited some thousand Years ago. Now it is to be remember'd, that Part of the Western Coast of *Africa*, and the *Canary* Islands, were planted by the *Carthaginians*, four or five hundred Years before the Birth of our Saviour; and as the *Canaries* lie over-against *America*, some have conjectured that a Ship might probably be driven thither by the Winds that blow constantly from the Eastward, it being not above three Weeks Sail from thence to that Continent. It is farther supposed, that this Ship, being sent to plant a Colony, was crowded with Men, Women, and Children, like those we now send to our Plantations; and if these Planters were once driven from their intended Port far to the Westward, and found it impossible for them to return, what could be more rational than to run before the Wind, in hopes of making some other Land? And as we suppose them victuall'd in order to plant or recruit some Colony, they could not have less than three Weeks or a Month's Provisions on board, which was sufficient to support them in such a Voyage.

If it be demanded how it happen'd, that no Shipping was ever driven to *America* since the *Carthaginian* State flourish'd; it may be answer'd, that no People have navigated those

Seas since the *Carthaginians* till very lately, and all their Discoveries and Plantations on the West Coast of *Africa* were lost and ruin'd when their State was conquer'd by the *Romans*. Besides, there is another Circumstance to induce us to believe the Natives of *America* were descended from the *Carthaginians*, which is, the Conformity of their religious Rites. The *Americans* adored Mountains, Woods, Rivers, and almost every Animal which the *Africans* once did, and some of them continue to do at this very Day. And if we suppose *America* to have been first peopled by Sea, it must be either by the *Phœnicians* or *Carthaginians*, no other People having Fleets and Colonies on the Western Coasts of *Europe* and *Africa* in those early Ages.

SOME have imagin'd that *America* might have been colonied by means of the Sea from some of the *Asiatic* Countries, on account of a Resemblance they find between the Complexion, Hair, Beard, Customs, &c. of the *Chinese* or *Japanese* with some of the *Americans*: But this is not at all probable, considering the great Breadth of the *Pacific* Ocean, which is not less than eight or nine thousand Miles; and we see the *Chinese*, the only People furnish'd with Shipping in the Eastern Parts of the World, never affect making long Voyages, or visiting remote Regions. To this we may add, that it is very unlikely that any of their Ships should be driven to *America* by Accident, because the Sea is so wide,

wide, and the Winds so opposite to those that sail from *Asia*.

As for the Notion that the North Part of *America* joins to *Asia*, and was peopled by Land from that Continent, it seems very improbable, for we know that the Sea extends more than eighty Degrees to the Northward, and therefore if *America* was peopled that Way, those who went thither must travel within ten Degrees of the Pole, which Parts one would think are neither habitable nor passable. But admitting there is a Passage by Land from the Old to the New World, how comes it that no Man ever return'd that Way from *America*? If it be said, that the same Objection may be made against the Opinion that *America* was peopled by Sea, we answer, that the Case is far from being parallel, because the Wind is always fair for sailing from *Africa* to *America*, but contrary to those that would return from thence; and as well as we understand Navigation at this Day, we find it difficult to come from *America* without sailing pretty far North, where we meet with variable Winds, and for the most part Westerly.

THERE remains one Objection against the peopling of *America* by the *Carthaginians*, which is, that the Natives, when that Continent was discover'd, were destitute of almost all Arts and Sciences; that they knew nothing of Ship-building, or even the Use of Iron. But to this it may be answer'd, that as the first Genera-

tion was probably worn out before any Iron-Mines were discover'd, and as it is possible that none of those who arrived there might understand the digging, melting, and separating the Metal, if such Mines had been found, it is no Wonder that in an Age or two the Use of Iron was forgot, and consequently all Structures or Manufactures in which that Metal was required.

THERE is another Circumstance which favours the Opinion that the first Inhabitants of *America* came by Sea from *Africa*, namely, that it was found better peopled in the Middle, between the Tropicks, than it was towards the North or South; whereas, in our Continent, the most populous Countries and the most considerable Kingdoms have been within the Temperate Zone, to the Northward of the Tropic of *Cancer*. Had the *Europeans* or *Asiatics* gone North about to *America*, it is reasonable to think they would have first planted those Countries that lay nearest the North, or at least within the Temperate Zone, and not have chosen to fix the two great Empires of *Mexico* and *Peru* in the hottest Part of the Continent, and leave the rest of it almost without Inhabitants.

It may still be objected, that though Men might pass first to *America* in Ships, it cannot be imagined that every Species of Beasts, Birds, and Insects pass'd thither the same Way. To which it may be replied, that it is equally impro-

probable they should travel thither by way of the North Pole; for it is not to be supposed, that Animals bred in hot Countries would ever wander into frozen Regions; nay, it is a Question whether many of them would live in a cold Climate, if they were carried thither. Besides, some of the most hardy Animals, and fittest for such Journies, as Oxen, Mules, and Horses, were not found in *America*. On the other hand, several Species of Animals we meet with in the New World never appeared in our Continent; and if these first pass'd from us to *America*, how comes it that none of the same Species are left behind? The Difficulty remains equal, whether we suppose Animals to have pass'd from one Continent to the other by Sea or Land; and our Ignorance how the *Americans* came to have some of the same Animals that we have, is no solid Objection against the Notion that *America* was peopled by Sea.

AFTER all the fruitless Speculations and Disputes upon this Subject, it is probable that *America* is entirely separated from our Continent by the interposed Ocean, without any Neck of Land, whereby many have supposed it to communicate with *Tartary*. So that upon the whole it must be acknowledged, that it is very difficult, if not impossible, to account for the peopling of this vast Continent, and the stocking it with such Numbers of wild Beasts and other Animals, unless we have Recourse to an Opinion which some have entertain'd, *viz.* that
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the Deluge was only partial, not universal, and that *America* was peopled before that Time, though scarce any thing of Navigation was then known, there being no Ocean or separate Continents, and hardly any Island or Country but what might easily be gone to by Land. This is the Sentiment of the learned and judicious Mr. *Whiston*, who supposes that some of the Inhabitants of *America* might be preserved from the Deluge, as we know some were preserv'd in this Continent; though no Records are left amongst them to assure us thereof. *It is evident, (says our Author) that the whole Earth in Moses is no more than the then known Parts of the Earth or World; and it is evident that Men knew nothing then of the American World: So that the Silence of the sacred Historian relating to that World is of no Validity as to this Matter. And since other Arguments seem to imply that America was not peopled from this Continent, I think it is most probable that some were saved there from the Deluge, as well as here.* But we cannot help observing, that this Hypothesis is directly contrary to the Scripture Account of the Flood, and to what Mr. *Whiston* himself had a little before asserted, viz. That *this Deluge of Waters was universal in its Extent and Effect, reaching to all Parts of the Earth, and destroying all the Land-Animals on the entire Surface thereof, those only excepted which were with Noah in the Ark.* How to reconcile these jarring Passages we know not;
nor

nor shall we engage in the Controversy on either Side of the Question, since all that the most learned Men have said, or can say, with respect to the peopling of *America*, is nothing better than Conjecture.

C H A P. I.

Of SOUTH AMERICA.

BY inspecting a Map of *America* it appears that the North and South Parts of that vast Continent are join'd together by a narrow Neck of Land call'd the *Isthmus* of *Darien* or *Panama*, which is about sixty Miles over from Sea to Sea, between *Panama* and *Porto Bello*: So that when we divide *America* into North and South, it must not be understood that the Equator makes this Division, but the said *Isthmus*; for what is denominated *South America* extends at least twelve Degrees to the Northward of the Equator.

THE whole Length of *America*, from the most Northern Part of it yet discover'd to the Straights of *Magellan* on the South, is about eight thousand Miles in a direct Line; but as to its Breadth it is quite irregular, being in some Places about three thousand six hundred Miles,
and

and not above sixty or seventy in the narrow *Isthmus* above-mention'd. It is not known whether it joins to *Europe* or *Asia* on the North; but on the East it is bounded by the *Atlantic* Ocean, which separates it from *Europe* and *Africa*; on the West by the *South Sea* or *Pacific* Ocean, which parts it from *Asia*; and on the South by the Streights of *Magellan*, which separate it from *Terra del Fuego*, on the South Part of which is *Cape Horn*, reckon'd the utmost Verge of *America*.

A Country of such vast Extent, not only on each Side of the Equator, but reaching so far beyond each of the Tropicks, must of necessity be supposed to have as great a Variety of Soils as it has of Climates: But upon the whole, if we except the most Northern and Southern Parts, which are here, as every where else, naturally cold and barren, the rest is an immense Treasury of the valuable Productions of Nature, being stored with most, if not all the Plants, Grains, Fruits, Trees, Metals, Minerals, &c. that are found in the other Parts of the World, and many of them likewise in much greater Perfection; besides which, it has an almost infinite Variety of others peculiar to itself, which will not grow, or at least thrive, in any other Country.

THE South Part of *America*, which we are now going to survey, comprehends, 1. *Brasil*, belonging to the *Portuguese*; 2. *Paraguay*, subject

ject to *Spain*; 3. *Terra Magellanica*, possessed by the Natives, and to us little known; 4. *Cbili*, belonging to *Spain*; 5. *Peru*, subject to the same Crown; 6. The inland Country of the *Amazons*, unconquer'd and inhabited by Natives; 7. *Guiana*, where the *Europeans* have a few Settlements on the Coast; and, 8. *Terra Firma*, or the *Spanish Main*.—But it is time to come to Particulars, and see what is most curious and remarkable in these Countries, so long hid from the Knowledge of the Inhabitants of the rest of the Globe.

MOUNTAINS, SPRINGS, RIVERS, &c.

IT is generally allow'd, that the Mountains of South *America* are not to be parallel'd in any other Part of the World, for their surprizing Height and Extent; witness that prodigious Chain of them call'd the *Andes*, which begins in the most Northern Part of *Peru*, and extends itself quite to the Streights of *Magellan*, a Length of between three and four thousand Miles. *Acosta* relates, that he once ascended one of the highest of these Mountains in *Peru*, call'd *Pariacaca*; and that he went prepared according to the best Instructions he could get, with several more who had the like Curiosity; but notwithstanding all his Precaution, when he came near the Top he was seiz'd with such Pains that

that he thought he should have fallen to the Ground; and the rest of the Company being under the like Disorder, they all made haste down as fast as they could, without waiting for one another. They were all taken with violent Reachings to vomit, and not only brought up green Phlegm and Choler, but a great deal of Blood. This lasted for three or four Hours, till they had descended to the lower Part of the Mountain; and some of them purged violently: But generally the Sicknefs goes off before they get to the Bottom, and is attended with no ill Consequences.

PEOPLE who pass this Ridge of Mountains in any Part of them, for upwards of five hundred Leagues, are affected in the like Manner, but more in some Places than in others. *Acosta* had pass'd the *Andes* at four other different Places, and always felt the like Disorder, but not so much at *Pariacaca*; and the best Remedy they found against it was to stop their Mouths, Noses, and Ears as much as possible; the Air being so subtle and piercing, that it affects the Entrails both of Men and Beasts. This indeed is no Wonder, since the Height of the *Andes* (according to *Acosta*) is such, that the *Alps*, in comparison to them, seem but as ordinary Houses in regard to lofty Towers. Hence our Author concluded, that the Air on the Top of these Mountains was too pure and subtil for Animals to breathe in, they requiring a grosser Medium;

Medium*; and this, he supposed, occasion'd that Disorder in the Stomach.

As to the Reachings and Vomitings complain'd of by those who pass the *Andes* in *Peru*, it is remarkable that those who travel over that high Chain of them in *Cbili* call'd the *Cordillera*, are not affected with such Disorders, but only with a Difficulty of breathing, which is perceiv'd more or less on the Tops of all high Mountains: So that in *Peru* there may possibly be a Concurrence of some other Causes besides the Thinness of the Air, to produce the above Effects, since the Mountains of *Cbili* are considerably higher, and consequently the Air at top of them more rarefied. When Travellers ascend the highest Parts of these Mountains, they cannot see the Country below for Clouds,

* As too gross, so too rare an Air is unfit for Respiration, as appears not only from Experiments made by the Air-Pump, but from the Accounts of those who have been on the Tops of very lofty Mountains, where the Air is considerably rarefied. An ecclesiastical Person, who had visited the high Mountains of *Armenia*, told Mr. *Boyle*, that whilst he was on the upper Part of them he was forced to fetch his Breath oftener than usual; and taking notice of it when he

came down, the People told him it was what they themselves had frequently experienced. The same Ecclesiastick made the like Observation on the Top of a Mountain in the *Cevennes*; and a curious Traveller, on one of the highest Ridges of the *Pyrenees*, call'd *Pic de Midi*, found the same Inconvenience, he and his Company being obliged to breathe shorter and oftener than in the lower Air—See *Derham's Physico-Theology*, p. 6. and *Phil. Transf.* N°. 63.

whilst the Sky is clear over their Heads, and the Sun shines out in its full Lustre. They sometimes observe the Rainbow far beneath them, and see Storms and Tempests at a distance falling into the Valleys, whilst all is bright and serene above. We are told that there are fiery Meteors about these Mountains, sometimes so high in the Air as to resemble Stars, and sometimes so low that they frighten the Mules, by buzzing about their Ears and Feet; and it is no uncommon thing to have Snow and Thunder at the same Time. There are also several Volcano's in this Chain of Mountains, which sometimes break out with dreadful Violence, rending the Rocks, throwing up great Quantities of Fire, and roaring so as to be heard at a vast Distance.

THE Difference that Travellers observe between the East and West Side of the *Andes* is so great, that they seem two different Worlds. If from the Top of them we look towards the East, all is cover'd with thick Vapours, which intercept the Light of the Sun, and overshadow all the Country, engendering likewise frequent Storms of Hail, with terrible Thunder and Lightning; but on the West there is not a Cloud to be seen, the Heavens being constantly serene and clear. Some who have pass'd the highest Parts of the *Cordillera* relate, that they found no Snow on the Top, though in the Beginning of Winter; whereas in the lower Parts the Snow was so deep that the Mules could scarce

scarce travel. These Mountains indeed are only passable in Summer, or before the Winter is much advanced, on account of the Snows and excessive Cold: And even in the most beautiful Season, there are such frightful Precipices with deep Rivers at the Bottom, as frequently occasion the Loss of Mules and Travellers. The Steepness of Ascent and Descent makes the Passage difficult; but the Tedioufness of the Way is in some measure alleviated by the agreeable Cascades, which are naturally form'd amongst the Rocks and Mountains. In some Parts of the Valleys the Water springs up to a great Height, like artificial Fountains, amongst odoriferous Plants and Flowers, which yield a delightful Prospect. Most of these Streams and Springs are so exceeding cold, that a Man can scarce drink them, nor hold his Hand in them above a Minute; but in some Places there are hot Springs, which leave a green Tincture in the Channel through which they pass, and are reckon'd good against many Distempers. We read of a natural Bridge of Rocks over one of these Rivers, from the Vault whereof hang several Pieces of Stone resembling Icicles, form'd, as the Water drops from the Rock, into various Shapes and of different Colours. This Bridge is broad enough for three or four Carts to pass a-breast; and there is another Bridge near it, laid over by Art (as some say) between two Rocks, but an Author, who saw it, thinks it is rather the Work of Nature. It

is so far above the River, that he could not hear the Stream, though it runs with great Rapidity; and though the River be of a considerable Breadth, it appear'd like a Brook when he look'd down from the Bridge, which he could not do without Horror.

BUT, if we may believe *Acosta*, there is still a greater Danger in travelling over some of the Mountains of *Peru*, than any we have yet mention'd. He tells us, that there are mountainous uninhabited Defarts, where a sudden Blast of Air sometimes strikes a Traveller dead in an Instant; and that the *Spaniards* formerly pass'd these Mountains in their Way to *Chili*, but now either go by Sea, or take another Road by Land, to avoid the Danger of crossing them, in which Journey many have perish'd, and others have lost their Fingers and Toes, and have been render'd Cripples. The same Author relates, that General *Costilla* marching over them with his Army, great Part of his Men suddenly fell down dead, and their Bodies remain'd there without Stench or Corruption. As incredible as this appears, it seems to be confirm'd by the Reports of our Seamen, who assure us, that they have seen great Numbers of Bodies of Men, Women, and Children, lying dead upon the Sands in *Peru*, and looking as fresh as if they had not lain there a Week; but when they were handled, they proved as dry and light as a Sponge or a Piece of Cork. Whatever was the Cause of the Death of these
People,

People, it is agreed on all Hands, that the Dryness of the *Peruvian* Air, and the Heat of the Sands, preserved their Bodies from Putrefaction.

THE Rivers of *South America*, especially those which take their Rise to the Eastward of the Mountains we have been speaking of, deserve our Notice, some of them being the largest in the World, both with regard to their Depth and Breadth, and the Length of their Course; but most of those that rise on the West Side of the *Andes* are rather Torrents than Rivers, made by the annual Rains that fall on the Mountains.—The *Rio Grande* or *Magdalena*, which has its Source in the Province of *Quito* in *Peru*, near the Equator, runs directly Northward above a thousand Miles, and falls into the Sea between *Cartagena* and *St. Martha*—The celebrated River *Oronoque* or *Oronoko*, which has its Source not far from that of *Magdalena*, after a winding Course of fifteen hundred Miles or upwards, falls into the North Sea near the Isle of *Trinidad*, forming a large Gulf, in which there are many small Islands.—But the most amazing River, and generally supposed the largest in the World, is that of the *Amazons**, which rises about ten Leagues

* It may not be amiss to acquaint the Reader with the Origin of the Name of this River, and of the Country through which it flows. The *Amazons* then, according to the ancient Historians, were a Nation of warlike Wo-

from.

from *Quito* in *Peru*, and after many Windings and Turnings keeps its Course to the East till it falls into the *Atlantic* Ocean between the Coasts of *Guiana* and *Brazil*. Its Channel, about sixty Leagues from its Head, is three Miles broad; and as it receives many large Rivers in its Course, its grows wider and wider as it advances towards the Ocean, where its Mouth is fifty or sixty Leagues in Breadth. Even before it leaves *Peru* its Depth is ten or twelve Fathoms, from whence it increases to

men, who founded an Empire in *Asia Minor*, along the Coasts of the *Black Sea*, out of which Men were excluded. What Commerce they had with that Sex was only with Strangers at some appointed Times, and all their male Children they kill'd, and cut off the right Breast of the Females, that their Arm might be the stronger and more at liberty in Battle. It is a Point controverted indeed, even amongst ancient Writers, whether such a Nation of *Amazons* ever existed, but the greatest Part of them are on the affirmative Side of the Question. *M. Petit*, a *French* Physician, publish'd a *Latin* Dissertation in 1685 to prove that there really was such a

Race of female Warriors, wherein he has made curious Enquiries relating to their Habit, their Arms, the Cities they built, &c. Be this as it will, the *Spaniards*, who first discover'd and sail'd up the *American* River we are speaking of, were told of such a barbarous Nation of Women by some of the Natives, on purpose to frighten them; and they actually found the Women in several Places bordering on the River, as fierce and warlike as the Men, it being their Custom to accompany their Husbands to Battle, and to share their Fate: And hence proceeded the Name of the Country and River of the *Amazons*.

twenty,

twenty, thirty, fifty, and sometimes much more, before it reaches the Ocean. From its Source to its Mouth it is eight or nine hundred Leagues in a direct Line; but the Windings make it about twelve hundred, or eighteen according to some Computations. In the Year 1639 *Texeira*, a *Portuguese*, employ'd himself ten Months in making a Survey of this great River.—There is another River of *South America* little inferior to the former in Breadth and Depth, though it does not come up to it in Length of Course, viz. that call'd *Rio de la Plata*, which, reckoning only from the Confluence of the two Rivers that form it, runs above two hundred Leagues, and is all the way navigable for the largest Vessels, and full of delightful Islands. In its Course it receives several considerable Rivers, and sometimes swells to such a Height as to overflow a great deal of Land on each Side, during which Time the Natives betake themselves to their Canoes, and when the Inundation abates return to their old Habitations. It falls into the Ocean by a Mouth thirty Leagues broad, running with such Strength and Rapidity, that it takes off the Saltness of the Sea to the Distance of several Miles. A certain Author tells us, that the Water of this River is very clear, sweet, and excellent for the Lungs, so that the People who drink it have melodious Voices, and are generally inclined to Musick; but such an Account is too whimsical

to be regarded. He adds, that it petrifies the Branches of Trees that fall into it, and that Vessels of various Figures are naturally form'd of its Sand, which keep Water cool, and look as if they had receiv'd an artificial Polish.

WE shall only mention one more River, or at least a considerable Stream of Water, remarkable for its subterraneous Passage. This is in the Western Parts of *Tucuman*, a Province of *Paraguay*, where it seems there is a very large and lofty Mountain, which, from its glittering when the Sun shines upon it, is call'd the *Crystal Mountain*. Under this is extended a frightful Cavern, through which runs a River, with so many Windings and Turnings, that the Water is four and twenty or thirty Hours in its Passage from one Side of the Mountain to the other, according to the Computation of some *Portuguese*, who were rash enough (as *Purchas* relates) to make the Experiment, by hazarding their Persons on a Rafter made of Canes.

As to the Qualities of the Waters in the South Part of *America*, it is observed that some Lakes in the Valleys are extremely hot, particularly one near *Potosi* in *Peru*, which perfectly boils up in the Middle, where the Spring rises; but the Heat is so moderate near the Shore, that the Inhabitants bathe in it frequently. In the sandy Plains near the Coast of *Peru* there are very few Springs, but a great Variety in
that

that Part which is remote from the Sea; amongst which there is one near *Oropesa*, whose Water is very hot, and after running a little Way it petrifies and forms a Rock. It is said the Natives use the Stone in building their Houses, it being soft, light, easily wrought, and yet very durable. Travellers also tell us of Springs of liquid Matter much resembling Tar, and put to the same Uses by Sea-faring People.

AT the Baths of the *Tynca's*, (as they are call'd) an Appellation given to the ancient Kings of *Peru*, there is a Spring of Water that issues out hot and boiling, and another near it as cold as Ice, which used to be temper'd and mingled together for those Princes to bathe in.—Near *Cusco* there is said to be a Fountain, whose Waters, after a short Course, turn into Salt.—From the Top of the Mountain *Balconotta*, by some reckon'd the highest in *Peru*, there rise two Springs, which run different Ways, and soon form two considerable Streams. Their Waters, when they first issue from the Rocks, are of an Ash-Colour, hot and smoking, and smell like burning Coals; which Smell they retain a great way from their Source, till they mingle with other Streams, and become cool.—To these we may add another Fountain in *Peru*, which sends forth a Stream almost as red as Blood, from whence it has obtain'd the Name of the *Red River*.

FOSSILS.

ALMOST every Part of *South America* affords Mines of Gold and Silver, but those rich Metals are most abundantly found in *Chili* and *Peru*, as well as large Quantities of Copper, Tin, Lead, and Quicksilver. It is observ'd, that Gold is most frequently found native of all the Metals, being rarely met with in a State of Ore, and then intermix'd with the Ores of other Metals: But though native Gold be free from the penetrating Sulphurs which reduce other Metals to Ores, it is very seldom found pure, but has almost constantly a Mixture of Silver with it, and frequently of Copper. If it have any considerable Quantity of Copper in it, it is easily discover'd by its Hardness; but the Silver is not so readily detected. Sometimes the native Gold is found in the Mines in pure Masses, so large as to weigh twelve, fourteen, or sixteen Ounces; but these are very rare. Its more common Appearance in its loose State is in form of what is call'd *Gold Dust*, that is, small Particles mix'd among the Sand of Rivers; which is very frequent in *Guinea*, as we have already observ'd, and many other Parts of the World. But native Gold is also found in a middle State, as to Size, between the two Kinds just mention'd, in the Cliffs or perpendicular Fissures of the solid Strata in the Mountains of *Chili*. These Fissures are usually
fill'd

fill'd with a reddish Earth, the native Gold being either loose amongst it, or immersed in a debas'd crystalline Stone of a blueish Hue, and generally in flattish Pieces, from the Size of a small Pea to that of a Horse-bean; but no great Quantity has yet been discover'd. When they have dug out this red Marle, it is carried on Mules to the *Lavadero's*, (as they call them) a Sort of Basons of Water*, where it undergoes several repeated Lotions in different Waters, till the earthy and impure Parts are all separated and carried away by the Stream, and the Gold left at the Bottom.

In these Forms Gold frequently appears in those Parts of the World where it abounds, but still the greatest Quantities of it are found bedded in Masses of hard Stone, which lie at vast Depths, being often dug at a hundred and fifty Fathoms. There is no peculiar Stone in which it is immersed, but it is met with indiscriminately in several Kinds, some softer, some

* These Lavatories or Basons, according to M. *Frezier*, are made somewhat in the Manner of a Smith's Bellows, into which a little Rivulet of Water runs with a great deal of Rapidity, dissolving the Parts of the Earth, and carrying every thing away with it except the Particles of Gold, which by their Weight precipitate to

the Bottom. Sometimes large Pieces of Gold are found in these Lavatories, which usually turn to very great Profit when there is no Want of Water, the Expences of getting Gold this Way being but trifling compared with those accruing in the common Method, by Machines, Fire, and Quick-silver.

harder,

harder, and even in Earths. The richest Masses are usually a whitish but opaque Stone, which is a debased Crystal, containing a great deal of white Earth, often tinged likewise with Black, and sometimes with other Colours. In this Stone the Gold lies in a great Variety of Figures, sometimes like small Branches, at other times interwoven in narrower or broader Veins, or in little flat Spangles intermix'd with Specks of Black. But, besides this Sort, there are many coarser Stones in the Mines of *Peru*, which contain considerable Quantities of Gold, visible in large or small Spots; and these are of all Colours, but generally white or reddish. In these Stones the Gold is commonly in small Spangles.

IN order to separate the Gold when dug out of the Mines, they first break the metalline Stone or Ore with Iron Mallets, and then carry it to the Mills, where it is ground to a very fine Powder, which is afterwards pass'd through several Brass-Wire Sieves, as fine as any we have made of Silk*. The Powder thus prepared is laid in wooden Troughs, with a proper Quantity of Mercury and Water, where it is work'd together, and there left to saturate in the Sun and Air for eight and forty Hours. During this Time the Mercury imbibes all the Gold, without cohering with the coarser Earth

* The usual Method of Ore in *Hungary*, see in separating Gold from the *Vol. I. p. 322.*

or Sand, which, upon inclining the Trough, is easily wash'd away with the Water. The Mass which remains now concreted at the Bottom is nothing but Gold, Mercury, and some fine Earth, which last they disengage from the Mass by repeated Affusions of hot Water, and the Mercury they separate by Distillation in large Alembicks. The Gold in this State, though not yet perfectly pure, is call'd *Virgin Gold*, as well as that found in the Sand of Rivers, or that in Grains in the Mines, in regard none of them have pass'd the Fire. After this they usually fuse it in Crucibles, and cast it into Plates or Ingots.

THE next Metal to Gold in Value is Silver, and of this the Mines of *Peru* and some other Parts of *America* afford the greatest Quantities of any in the World. This Metal, as well as Gold, is found native more frequently than in a State of Ore; what are commonly call'd Silver-Ores, says Mr. *Hill*, (on whose Authority we chiefly depend in these Matters) being no other than Stones of various Kinds, in which are bedded large Quantities of native Silver. Sometimes it is also contain'd in the softer Fossils, as Earths; and sometimes it is found loose among Strata of Sand. That which is lodged in Stone is usually disposed in flat Masses variously streak'd, ridged, and often resembling Silver-Lace; that in Earths is frequently branch'd, and that among Sand in small roundish or oblong Granules. However, though Silver is

often found thus native and pure, it is likewise frequently met with in a State of Ore, and sometimes embodied in the Ores of other Metals. The proper and peculiar Ores of Silver are also very various in their Appearance, but its most usual Ore is a singular and remarkable Body, being naturally malleable. The Colour of this is a blackish Blue, and it so nearly resembles Lead that many have mistaken it for that Metal in its native State. It is found in large irregular Masses, sometimes of a laminated Structure, extremely heavy, and very rich in Metal, containing often three Fourths of pure Silver; but among these are usually found some of a more debased Nature, containing much less Silver, and distinguish'd from the rest by their not being malleable and of a paler Colour.

ANOTHER Appearance of Silver in the State of Ore is in brownish Masses, obscurely transparent, not a little resembling the coarser Sorts of Amber. These are usually of an irregular Shape, often in the Form of our common Pebbles, but sometimes flatted and with rugged Edges. This Sort of Ore breaks with a slight Blow, and is also very rich in Silver, usually containing near two Thirds of its Weight in Metal. But there is yet another Appearance of Silver Ore, superior to all other Ores in Beauty, being a compact Substance, of a regular Texture, of a very bright Red, a smooth even Surface, and considerably pellucid. This very
much

much resembles the native Sandarach*, and is sometimes exactly of the fine florid Red of that Body, and now and then approaching to a Crimson.

THESE are the more usual Appearances of Silver in a State of Ore, but it is found with numberless accidental Variations; and there are Stones of all Colours and Consistences wrought in different Places for the Silver they contain. In the Mines of *Peru*, some of the Ores, as they are call'd, are grey spotted with Blue and Red; others have various Shades of Red, with Admixtures of Yellow or Brown; and others are black, green, or yellow. Some of these are of the Nature of one or other of the Ores above described, only debased by adventitious Mixtures; the others are Stones wherein native Silver is lodged, which are commonly confounded with the rest under the Name of Silver-Ores. The black Ores are the richest and most easily wrought, and the Silver they yield is of the best Sort. The Veins of Silver, of what Quality soever, are usually richer in the Middle than towards the Extremities; but the richest Places are those where the Veins intersect.

* This is a Preparation of Orpiment, and is the same with what is otherwise call'd red Arsenic; but there is also a white Gum named *Sandarach*, obtain'd from the Trunk and thick Branches of the great Juniper-tree, by Incisions made in the Heats of Summer.

THE most celebrated Mines of *Peru* are those of *Potosi*, which have now been opened above two hundred Years, and yet continue to be wrought with equal Advantage as when first discover'd; only with this Difference, that the Veins, which were then almost on the Surface of the Mountain, are now sunk to prodigious Depths, some of the Pits or Wells being two hundred Fathoms deep, and yet (which is very remarkable) not incommoded with Water. What renders the working of the Mines exceeding dangerous, are the Exhalations arising from them, which are even felt on the Outside, and affect Animals that graze in the Neighbourhood; but within they stupify the Miners, none of whom can bear so poisonous an Air above a Day together. Sometimes it is so fatal as to kill on the Spot, and oblige them to stop up the Veins from whence it exhales. The Mines of *Potosi* are much the least subject to these Vapours, and yet without the Herb *Paraguay*, the Infusion whereof is drank by the Miners as we do Tea, these Mines must soon be abandoned. Some Millions of *Indians* have perished in them, and prodigious Numbers continue to be destroy'd yearly.

It is said that the Mines of *Potosi* were accidentally discover'd by a Native, who pursuing his Game up the Mountain, and being like to fall, laid hold of a Shrub that grew upon a Vein of Silver to save himself, and happening to pull it up by the Roots, he spied the precious

cious Metal underneath. He kept the Thing secret till he had got Silver enough to enrich himself and his Family, and then made it known to the *Spaniards*.—This famous Mountain, whose Treasure seems inexhaustible, rises in the Form of a Sugar Loaf, is near a Mile high, and about three Miles in Circumference at the Bottom. But though the Mines of *Potosi* still keep up their Reputation, there are several more lately discover'd, that are said to exceed them in Richness. Such are those of *Oruro*, eight Leagues from *Arica*, and those of *Ollachea* near *Cusco*, open'd in 1712.—It is remarkable, that most of the Mines of *America* are found in cold and barren Places.

THE Manner of separating Silver from its Marcasite or Ore is nearly the same as in Gold*. They break the Ore in the Stamping-Mill till it is reduced to Powder, and then mix it up with Mercury into a Sort of Paste, which they knead in the Troughs till the Water has by degrees wash'd away all the earthy Particles. After this they strain off Part of the Mercury from it through a woollen Bag to serve again, and the rest is made to evaporate by Fire. The Silver that remains behind is, last of all, perfectly refined from all heterogeneous Matter by a Solution of Lead, which, exhaling from it, carries off in Fumes the Copper or other Alloy.

* How Silver is separated from the Ore in *Hungary*, see in *Vol. I. p. 324.*

ANOTHER Part of the Riches of *Peru* are its Mines of Quicksilver, which afford surprizing Quantities of that useful Mineral. Those of *Guancavelica* or *Oropesa* are the most famous, and are more considerable than the rich Mines of *Friuli* in *Europe*, of which we have heretofore given an Account*. *Frezier* tells us that the Mines of *Guancavelica* supply all the Gold and Silver Mills in that Kingdom; but this seems to be a Mistake, since other Mines are wrought which produce Plenty of Quicksilver. The Earth containing the Quicksilver is of a whitish Red, like Bricks half burnt, which being pounded is put into an earthen Furnace, whose Top is vaulted like an Oven. They spread it on a Layer of common Earth, wherewith the Grate of the Furnace is cover'd, under which they keep a small Fire made of a Shrub they call *Icho*, which is of such Necessity in these Works, that the cutting it for any other Use is prohibited for the Space of twenty Leagues round. In proportion as the pounded Mineral heats, the Mercury rises volatilized into Smoke, which finding no vent through the Capital of the Furnace, which is exactly luted, escapes through a Hole made for that Purpose, communicating with several earthen Cucurbits, each having a little Water at the Bottom. By means of this Water the Smoke is condensed, and the Quicksilver precipitates, and is taken

* See *Vol. I. I. p. 330.*

out when the Operation is over*.—It is remarkable in this Process, that the farther the Cucurbits are from the Furnace, the more they are fill'd with Quicksilver; and they all grow so hot that they would break, if they were not sprinkled from time to time with Water.—The Workmen employ'd in this Business never hold it long, but become paralytic, and die miserably†. A Precaution they use is to hold a Piece of Gold in their Mouth, to imbibe the pernicious Effluvia, and prevent their Passage into the Body.

HAVING been so particular in our Account of the Gold and Silver of the South Part of *America*, it will not be expected we should say much concerning the baser Metals, especially as we have spoken of them sufficiently in *Europe*. We may just observe however, that *Chili* abounds with Copper, of which the *Spaniards* make their great Guns for those Parts of their Dominions, the Bells of their Churches, and Family Utensils; so that since the working of the Mines of *Chili* no Copper has been sent from *Spain*, as they afford the *Indies* a sufficient Supply of that Metal.

As to precious Stones, though we have described most of them in our Survey of the *East*

* The Reader may see other Methods of separating Mercury from its Ore, in *Vol. I. p. 195 and 330.*

† See more of the Effects of Mercury in the *Note, Vol. I. p. 332.*

Indies *, it is proper to observe, that rich Mines of Diamonds have lately been discover'd in *Brasil*, and *Peru* is noted for its Emeralds. The Ancients indeed, and *Pliny* in particular, mistakenly reckon'd up various Kinds of Emeralds†, but the modern Naturalists and Jewellers only know of two, the *Oriental* and the *Peruvian*. Nay, according to *Tavernier*, these two should be reduced to one, viz. the *Peruvian*; for he maintains, that there is not, nor ever was, any Mine of Emeralds in the *East-Indies*, but that all that are there found were brought from *Peru* by way of the *South-Sea*, a Commerce having been carried on thither by the *Peruvians* before the Discovery of *America* by the *Spaniards*. However, such Commerce not being sufficiently proved, we may keep to the Distinction of *Oriental* and *Peruvian* Emeralds, of which the former are harder, more brilliant and transparent than the latter: And besides, there are such Quantities brought from *Peru* by the Way of *Carthagera*, that they are much sunk in Value and Reputation.

VEGETABLES.

THERE is no Production of this Kind in *America* that more justly deserves our Notice, than the Tree which yields the celebrated

* See Vol. III. p. 7—20.

† See Vol. III. p. 16, Note.

Febrifuge, popularly call'd the *Jesuits Bark*. It is also call'd *Quinquina*, *Kina Kina*, and *Palo de Calenturas*, that is, *Fever-wood*, on account of its extraordinary Virtue in removing all Kinds of intermitting Fevers and Agues. The Tree that produces this noble Specific grows only in the inland Parts of *Peru*, on the Mountains near *Loja* or *Loxa*, in the Province of *Quito*; at least the best Sort (for there are different Species of this Tree) is no where else to be found, according to the Account of Mr. *Arrot*. It is a pretty tall Tree, and has a Trunk rather bigger than a Man's Thigh, tapering from the Root upwards, and free from Branches till near the Top, where they shoot out as regularly as if they were lopp'd, forming with the Leaves the Figure of a Hemisphere. The Bark is of a blackish Colour on the Outside, and sometimes mix'd with white Spots, from whence commonly grows a Kind of Moss, which the *Spaniards* call *Barbas*. Its Leaves are much like those of our Plum-tree, of a darkish green Colour on the upper Side, and reddish on the lower. It bears a red Flower, which is succeeded by a Sort of Pod, inclosing a Seed somewhat like a Hop-feed; though Dr. *Oliver* represents its Fruit as resembling a Chestnut. The Soil where the best Sort thrives is generally a reddish Earth or rocky Ground, and frequently on the Banks of the Rivulets that fall from the Mountains. Mr. *Arrot* adds,
that

that it flourishes and bears Fruit at the same Time all the Year round.

THE Bark-Trees do not grow together in great Numbers, but are intermix'd with others in the Woods. Sometimes indeed it happens that Clusters of them are found together, but at present they are much scarcer than in former Times, a great many fine large ones having been entirely cut down, in order to come at the Bark the more easily. The properest Season for cutting the Bark is from *September to November*, the only Time in the Year that there is some Intermission from Rain in the Mountains. Having discover'd a Spot where the Trees most abound, the Workmen build Huts near it for themselves, and a large Hut to put the Bark in, to preserve it from the Wet: But they remove it from hence as soon as possible to the nearest Plantation or Farm-house in the low Country to dry, which is done by spreading it abroad in the open Air, and turning it frequently. The *Indians*, who are the Cutters, are each provided with a large Knife, and a Bag that will hold about fifty Pounds of green Bark. Two of them take one Tree, from whence they cut or slice down the Bark as far as they can reach from the Ground; and then taking Sticks about half a Yard long, they tie them to the Tree with tough Withs at proper Distances like the Steps of a Ladder, always slicing off the Bark as far as they can reach, before they fix a new Step. Thus they mount to the Top, the *Indian*

dian below gathering what the other cuts ; and this they do by turns, going from Tree to Tree, till their Bag is full ; which, when there is Plenty of Trees, is generally a Day's Work for one *Indian*. Our Author tells us, that after a Tree is stripp'd of its Bark, it requires eighteen or twenty Years to grow again ; which is quite different from Dr. *Oliver's* Account, who says, it grows again in four Month's *.

MR. *Arrot* had the Curiosity to send a considerable Quantity of Bark from the Woods to the City of *Loxa*, where he put it into a large open House, and dried it under Cover, never exposing it either to the Sun or the Air of the Night ; imagining that the Sun exhaled many of its fine Parts, and that the Night-Air was very pernicious to it : But he found the Colour of the Bark, thus cured, not near so bright and lively as that dried in the open Air. This best Sort of Bark, he imagines, will last but a short Time, or at least it will be extremely hard to be got, by reason of its Distance from inhabited Places, the Impenetrability of the Woods where it grows, and the small Number of *Indians* to cut it, who by the cruel Usage of the *Spaniards*

* Dr. *Oliver* had his Account of the Bark-Tree from an *Apothecary* at *Cadiz*, who had been in *Peru* ; but Mr. *Arrot* relates what he himself had observ'd and been told whilst he liv'd in that Country. Who is most to be credited, we leave to the Reader's Judgment.

are daily diminishing, and in a few Years will perhaps be extirpated out of that Country.

It is not certain how the Qualities and Use of this remarkable Bark came first to be known, but it is the common Opinion at *Loxa* that they were known to the *Indians* before ever the *Spaniards* came amongst them; and that it was by them applied in the Cure of intermitting Fevers, which are frequent in those wet Parts of *Peru*. According to the Account of the *Spaniards*, however, the Virtues of the *Peruvian* Bark were discovered in the following Manner. Near the Town of *Loxa* (say they) was a Lake surrounded with *Quinquina* Trees, which being blown down or accidentally thrown into the Lake communicated a bitter Taste to the Water, so that the Inhabitants, who used to drink it, could use it no longer. But a certain *Indian*, who had a violent Fever upon him, and consequently an intense Thirst, finding no other Water was forced to drink of this, by which he was perfectly cured. He related this Accident to some of his Neighbours, and several Persons afflicted with Fevers made the same Experiment with the same Success. Upon this they set themselves to discover what had given this febrifugous Quality to the Water of the Lake; and found in the first Place that a great Number of Trees had fallen into it; and, secondly, that in a Course of Years these Trees being rotted in the Water, it lost its bitter Taste, and at the same Time its Virtue; whence they concluded,

cluded, that its Quality was owing to the Trees. Then they infused all the Parts of these Trees in Water, and found that their whole Efficacy resided in the Bark. This Medicine, however, remained a Secret to the *Spaniards*, till the Year 1640, when it was discover'd by a Soldier, who by its Means had the good Fortune to cure the Vice-Queen of *Peru* of an intermittent Fever, which had baffled the Skill of her Physicians. From this Time the *Spaniards* began to use it with wonderful Success; and in 1649 Father *de Lugo*, a *Jesuit*, then Procurator General of his Order, and afterwards Cardinal, brought it to *Rome*; upon which the Society of *Jesuits* soon raised its Reputation in *Europe*, and got a great deal of Money in a short Time, selling it for more than its Weight in Gold, and never parting with it but in Powder, in order to disguise it the better. At this Juncture the Physicians were divided with respect to the *Peruvian* Bark, some looking on it as a divine Medicine, whilst others believed it dangerous, and even fatal in many Cases; but its Reputation was only lost through the Ignorance of the Manner of preparing and prescribing it; for about the Year 1679, Mr. *Talbot*, an *English* Physician, brought it into Vogue, by the great Number of Cures he wrought about the Court and City of *Paris*, with the Powder prepared after his Manner; the Secret whereof was afterwards made publick, by the Munificence of *Louis XIV*,

who rewarded *Talbot* for the Communication with five thousand Crowns.

THE Reputation indeed, which this Medicine has universally obtain'd, has been chiefly owing to the judicious and successful Experiments made by the *English* Physicians: But it still has its Enemies, who pretend that it brings on violent Relapses, or new and incurable Diseases; such as Cachexies, Tumours of the Feet, Dropsies, obstinate Costiveness, Oppression of the *Præcordia*, hypocondriac and hysteric Disorders, slow and hectic Fevers, accompanied with a Loss of Strength and Appetite, and sometimes Convulsions and Epilepsies in Children.—*Baglivi* affirms, that Fevers cured by the Bark return in a few Days, or are succeeded by Asthma's, Dropsies, slow Fevers, Consumptions, or other dangerous Disorders. And indeed many learned and eminent Physicians object against the Bark, that its astringent and corroborating Qualities suspend the febrile Comotions, which do not remove the Intermittents, but induce Relapses, and perhaps more terrible Disorders. But it is certain, that the *Peruvian* Bark, exhibited duly and in Conjunction with other suitable Remedies, has a Tendency to remove the Causes of Fevers by promoting Perspiration, and restoring the due Tone of the Solids. Besides (says Dr. *James*) the Bark is possess'd of a bitter Quality, which is universally allow'd to be a Remedy for Fevers, since almost all Bitters, such as Wormwood, Carduus,

Carduus, Benedictus, Fumitory, the lesser Centaury, and others of a like Nature, are esteem'd excellent Febrifuges. It is to be observ'd, however, that before the Humours and *Viscera* are generally disposed to these Diseases, the bad Humours of the Patient may probably contribute to their Production. Besides, it is sufficiently evident, that the most efficacious Remedies, such as Venesection, Purgatives, Emetic, and Opiates, if used without Judgment, are equally pernicious and fatal; so that the Bark, though sometimes a dangerous Remedy in Fevers and other Distempers, especially in the Hands of an ignorant Physician, is a safe and efficacious Remedy when properly applied. And indeed the bad Effects of it do not proceed from the Medicine itself, but are to be attributed to the improper Use of it, the Errors of the Patient, or some Neglect in removing the peccant Humours of the *Primæ Viæ*, which ought by all means to be removed before the Bark is administer'd. Neither should the Bark be prescribed if the *Viscera* are obstructed with Blood Humours, before those Obstructions are removed; nor is the Cure of intermittent Fevers to be undertaken with the Bark in plethorick or hypochondriack Patients, or when critical Evacuations of Blood are suppressed. Caution is likewise necessary if the Patients to whom this Febrifuge is given have their Strength and Blood exhausted, if they are liable to exorbitant Passions, or if their Disorder approaches to

a continual Hectic or slow Fever. If also the Urine is limpid and without Sediment, if the *Hypochondria* are tumid, or an Autumnal or Winter Fever has been long protracted, great Discretion is likewise to be used, for in such Cases it is best to moderate the febrile Com-motions by gently evacuating and corroborating Medicine, till the Fits spontaneously cease, either by Change of Place, a more exact Regi-men, or the Influence of a warm and serene Air. As to the Form, (say Dr. James) it is most commodiously given in Substance in a proper Vehicle, without any Addition; but if the Stomach nauseate it in this Form, there are various Methods of preparing it in a more agreeable Manner. After all, it ought never to be given in large Quantities, but rather at several times, one or two Scruples only on the intercalary Day, every three Hours after the Fit, drinking after it a sufficient Quantity of Water, Broth, or Beer. Besides the peculiar febrifuge Quality of the Bark, it is of peculiar Service in stopping the Progress and perfecting the Cure of Gangrenes and Mortifications.

THIS noble Medicine is sold either in Bark or in Powder. If bought in the Bark, it must be chosen dry and compact, such as has never been damaged by Wet, and is not too easily reduced into Powder by breaking. The small blackish Barks, shagreen'd without, and reddish within, of a bitter disagreeable Taste, are the
most

most esteemed. But this little Sort, which curls up like Sticks of Cinnamon, and is supposed to be peel'd off the Branches, Mr. *Arrot* tells us is only the Bark of the younger Trees, which twists up in that Manner on account of its Thinness; for he says the Bark of the Branches would not answer the Trouble and Expence of cutting.—As to the Powder, it ought to be well sifted, and bought of Persons that may be trusted, it being sophisticated, and the Cheat not readily discover'd.

THERE is another Bark call'd *Winter's Bark*, or *Winter's Cinnamon*, because brought by Captain *Winter* from the Streights of *Magellan*, where the Tree grows in great Abundance: But it is to be observ'd, that the wild Cinnamon sold in the Shops is not the true *Cortex Winteranus*, though pass'd off under that Name. There are Barks of different Trees, growing in very distant Places, by outward Appearance seeming quite different from each other, and even alike with regard to Taste, so that they may be used as a *Succedaneum* to each other; but the true *Winter's Bark* is much to be valued beyond the false, which is generally sold in the Shops, being far more aromatic. It is resolvent, discutient, and sub-astringent; on which Account it is successfully administer'd in Disorders of the Stomach, Crudities, Nauseas, Diarrhoeas, and excessive Vomitings. To strengthen the Stomach it is likewise used in the Declension and at the End of intermittant Fevers;

and it is reckon'd beneficial to scorbutic Patients.

WE ought not to omit another excellent Root growing plentifully in *Brazil* and *Peru*, namely, *Sarsaparilla*, which began to be much celebrated about the same Time with the *China* Root, as appears from an Epistle of *Vesalius*. The Root divides itself into a great Number of Filaments, six or seven Feet long, brownish without, and white within, only mark'd with two red Streaks; and its Branches creep along the Ground, or up the Trunks of other Trees like Ivy. Its chief Use is in Decoctions and Potions for the venereal Disease, and in some Cases it is reckon'd to exceed Guaiacum itself, especially when the Patient is afflicted with Rheumatic Pains, owing their original to the venereal Infection. It is prepared by cutting two Ounces of the Root into small Bits, and macerating them a whole Day in six Pints of Water; which are afterwards to be boil'd over a gentle Fire in a double Vessel well closed with a Lid, till one Third or one Half be evaporated. Of this Decoction the Patient is to take a Glass that will hold ten Ounces, very early in Bed, and the Course is to be continued for twenty or four and twenty Days.

IN the Southern Parts of *America* we find several Trees which furnish us with healing Medicines, particularly the *Peruvian* Balsam. Of this there are two Kinds, the white and the black; but the former is accounted best, and is
by

by way of Eminence call'd *Balsam of Incision*, because flowing from a large Tree upon making Incisions in the Bark. This Species is limpid, of the Consistence of Turpentine, of a fragrant Smell, and much scarcer and dearer than the black Sort; but it is frequently adulterated with Venice Turpentine. We have large Quantities of the black Sort imported, which is prepared by boiling the Branches, Bark, and Leaves of the Trees; but this is likewise often adulterated, which however may be known by its being thick and coagulated, and wanting its penetrating Taste and Smell. The true Balsam of *Peru*, if used internally, restores lost and impair'd Strength, and being very friendly to the nervous System, powerfully contributes to remove the Disorders arising from its Weakness. The black *Peruvian* Balsam, according to *Geoffrey*, is also of a warming and strengthening Nature, comforting the Brain and Nerves; and it is beneficial in Asthmas, the Cholic, and Pains of the Stomach and Intestines. Used externally it alleviates the Cramp, relieves all Kinds of Convulsions, old Aches and Pains, and Contractions of the Sinews. In Cuts and green Wounds it is also serviceable.

THE Balsam of *Capivi* is produced from a Tree growing in *Brazil*, and brought to us from *Rio de Janeiro* and other Places in earthen Vessels. There are two Sorts of it, the one very limpid, the other pretty thick, but the Difference depends upon the different Seasons
of

of gathering it. *Hoffman* esteems the limpid Kind both for internal and external Purposes, it being an excellent Liniment for the Consolidation of Wounds and Ulcers, and for strengthening the nervous Parts after they have been weaken'd by any Disease. It is also beneficial when applied to Parts that have been affected with the Gout, and thereby render'd unfit for Motion.—This Balsam is used by the *Jews* to stop the Blood after Circumcision.

To these we may add the Balsam of *Tolu*, the Produce of a Tree growing in *Terra Firma*, of a tough resinous Consistence, of a yellowish Colour, of an highly fragrant Smell, and aromatic Taste. This is an excellent pectoral Medicine, and consequently of great Service in all Disorders of the Lungs, as Coughs, Asthmas, and Consumptions; and what renders it still more valuable is, that it has no nauseous oily Taste, which is the Case of most other native Balsams. With Sugar and the Yolk of an Egg it makes an agreeable Emulsion; and it is reckon'd restorative if taken inwardly, and deterges and consolidates Wounds if applied externally. It strengthens the Nerves, and is good against a Rheumatism and Sciatica. In Taste and Smell it resembles the *Balm of Gilead*, and as it grows old it becomes friable, and assumes the Consistence of a dry Balsam.

THERE is still to be mention'd a very celebrated Plant of the Shrub Kind growing in some Parts of *South America*, especially *Paraguay*,

guay, by which Name it is call'd, though better known amongst us under the Denomination of *South-Sea Tea*. Its usual Height is about a Foot and a half, its Branches are very slender, and its Leaves like those of *Sena*. It may be look'd upon indeed as a Sort of occidental Tea, which, like the oriental, is infused in hot Water, and communicates to it a Colour and Smell nearly like those of the best Tea brought from the *East Indies*. Of this Plant there are two Kinds, the one call'd *Paraguay*, the other *Camini*, which last is most esteem'd, and sold for a Third more than the other. The first is chiefly used by Domesticks and Slaves, but the latter is the Drink of the richest People; and both are of so much Use, and esteem'd of such Necessity, that no body in that Part of *America* will live without them. In the Mines of *Potosi* (as we have already observ'd) the poor Slaves could not live without a constant Supply of *Paraguay*, which is their Remedy against the mineral Steams that otherwise would suffocate them; and it is said that no Servant will engage himself with a Master but on Condition that he have *Paraguay* for his usual Drink.— This Plant makes a very considerable Article in the Commerce of that Part of the World, and passes almost wholly through the Hands of the *Jesuits*. The Use of it began once to obtain in *England*, and seem'd to be approved of as well as Tea; but of late Years it has not been much regarded. The Preparation of it,
and

and the making it into Drink, is much the same with that of Tea, except that both the Leaves and Wood are used, and the Liquor drank immediately out of the Vessel it is made in, which the Company suck through a Silver or Glass Tube, handed round from one to another. It is farther to be observ'd, that besides the Virtues of the Eastern Tea, the *Americans* attribute another to theirs, viz. that of purifying all Kinds of Water, how foul and corrupt soever; so that in the Desarts they cross from *Buenos Ayres* to *Peru* and *Chili*, they make use of it to sweeten the bad Water they meet with, and drink it without any Injury. In the Scurvy and putrid Fevers it is also reckon'd a sovereign Remedy.

NOR should we forget the *American* Wood call'd *Brazil*, commonly supposed to have had its Name from that Country, though *Huet* shews it was known many Years before *Brazil* was discover'd. It is variously denominated, according to the Places whence it is brought, as *Fernambuco*, *Japan*, the *Antilles*, &c. but it always grows in a dry barren Soil, and even in the Middle of Rocks. The Tree is tall, usually crooked and knotty, and has a Bark of a surprising Thickness. It bears Flowers of a very beautiful Red, which smell agreeably, and are said to strengthen the Brain. The Wood itself is very heavy, crackles much in the Fire, and scarce raises any Smoke, by reason of its extreme Dryness. That of *Fernambuco* is
esteemed

esteemed the best, and it is to be chosen in thick Pieces, close, sound, and such as being chew'd tastes something like Sugar.—It takes a good Polish, and is much used in turn'd Works, but more frequently in Dying, as it gives a red Colour, though none of the most lasting. In Medicine it is reckon'd to mitigate the Heat of Fevers, and is strengthening and restrigent.

MANY more Productions of the vegetable Kind in this Part of the World are very remarkable, particularly a large prickly Shrub, as thick as a Man's Leg, and growing to the Height of ten or twelve Feet, but bearing neither Leaf nor Fruit.—The *Mammee* is a tall strait-bodied Tree, without Knots or Limbs for sixty or seventy Feet, but afterwards spreading into several small Branches, growing thick and close together. Its Bark is of a dark-grey Colour, thick and rough; its Fruit bigger than a Quince, round, and cover'd with a thick Rind. When the Fruit is ripe the Rind is yellow, and will peel off like Leather, but before it is brittle. Under the Rind the Pulp is also yellow, and in the Middle are two large Stones, flatish, and each of them much bigger than an Almond. The Fruit smells well, and the Taste is not disagreeable.

IN *Terra Firma* there are several Sorts of Mangrove Trees, which we think it proper to take notice of, besides those we have mention'd in *Africa*. They are black, red, and white, the first of which is largest, being as big as
many

many of our Oaks, and to the Height of about twenty Feet very serviceable Timber, but extraordinary heavy, and therefore not much used in Building.—The red Mangrove grows commonly by the Sea-side, or by Creeks and Rivers, and proceeds from several Roots, which about eight or ten Feet from the Ground join into one Trunk or Body, so that the Tree seems to be supported by so many artificial Stakes. The Inside of the Bark is red, and is much used in the *West Indies* for tanning of Leather.—The white Mangrove does not grow so large as the other Sort, nor is it of any great Use.

WE shall conclude this Article with the Description of a very useful Tree, viz. the *Cacao* or Chocolate Nut-tree, which is found in several Parts of the *West Indies*, but no where so plentifully as on the Coast of the *Carracas*. This Tree nearly resembles our dwarf Apple-tree both in Body and Branches; but the Leaf, which is of a deep Green, is considerably broader and longer. The Nuts, which are of the Colour and about the Size of an Almond, hang fifteen or sixteen together by a small stringy Film, inclosed in a Pod shaped like a large Cucumber, and pointed at the upper End. When the Pod is ripe it is of a beautiful yellow Colour, intermix'd with blood-red Streaks; but when dried it shrivels up, and turns to a deep Brown. The Juice expressed from the mucilaginous Pulp contain'd in the Husk of these Nuts resembles Cream, and is possess'd of a grateful

grateful Taste and cordial Quality; and the Nuts themselves are said to be so nutritive, that an Ounce of them contains more real Nourishment than a whole Pound of Beef. The Tree is difficult to cultivate, and the Climate it grows in so warm, that, to guard it from the Sun, it is planted in the Shade of another Tree, call'd *Mother of Cacao*; and the Profit arising from the Fruit is so considerable, that we are told some of the *Spaniards* make five thousand Pounds Sterling *per Annum* from one Plantation of Cacao's. In some Parts of *America* the Nuts are used by the Natives as Money, twelve or fourteen being esteem'd equivalent to a *Spanish* Real, or about seven Pence Sterling.

WHAT renders the Cacao-Nut most famous is its being the principal Ingredient in Chocolate, a factitious Substance first brought from *America* into *Europe* by the *Spaniards* about the Beginning of the last Century. Some dissolve this Substance in Water, others in Milk, and others in Wine; but Water seems to be the best Vehicle for it, as the most proper to distribute its nutritive Parts, and to promote Digestion. The Composition of Chocolate makes it chiefly proper for Persons of cold Constitutions, for old People, for those who have their Strength impair'd by repeated Watchings, and for those who travel in cold Mornings. As it is of an oily and tenacious Nature, Dr. *Cheyne*, in his *Essay on Health*, thinks it should not be used by the Weak and Infirm, either as an Ali-

ment or a Medicine; but he grants that it may produce all the Effects of a salutary Food in vigorous and strong Constitutions. It is confirm'd by the Experience of many Physicians, that in hectic, scorbutic, and catarrhus Disorders, Chocolate is a wonderful Remedy, having wrought a Cure when all other Means have proved ineffectual: And *Hoffman* affirms, that Chocolate prepared with Water contributes much to the Cure of melancholic Disorders, arising from too weak and lax a State of the Nerves, especially if we add to it a few Drops of Essence of Amber. Dr. *Stubbs*, in the *Philosophical Transactions*, affirms, (and Dr. *James* is of the same Opinion) that well-prepared Chocolate is an excellent Diet for those who are scorbutic, afflicted with the Stone or arthritic Pains, and to prevent Convulsions; and yet some of the best Physicians have observed that drinking Chocolate to Excess contributes to the Formation of Stones, especially in the Gall-Bladder. It is agreed, however, that a Man in perfect Health may drink as much Chocolate as he has an Appetite for, provided he finds himself refresh'd, and his Stomach not overloaded. In hot and sanguine Constitutions the immoderate Use of this Liquor, by inspissating the Blood and rendering it less fit for Circulation, produces Inflammations of the *Viscera*, Fevers, and Apoplexies. On account of the Quantity of Sugar that enters the Composition of Chocolate, it ought to be avoided by those
who

who are subject to hypochondriac Flatulencies ; and the Disadvantages arising from the immoderate Use of this Drink, consider'd as prepar'd with warm Water, are plain to every one who reflects, that the frequent Use of warm Water relaxes the Organs of Digestion, and the Solids in general, and must consequently prove pernicious.

THE Method of making Chocolate, now used by the *Spaniards* in *America*, is first to dry the Fruit in the Sun, then to take out the Kernels and roast them at the Fire in an Iron Pan pierced full of Holes, and afterwards grind them on a Marble-Stone, till they are brought to the Consistence of a Paste, mixing with them a Quantity of Sugar, some long Pepper, and *Vanilla*, or Vanelloes, a little black Seed, that gives the Chocolate an agreeable Flavour. Some add Cinnamon, Cloves, and Anise, and even Musk and Ambergrise if they love Perfumes. —What is made in *Spain* differs something from that made in the *West Indies*, two or three Kinds of Flowers being added, besides Hazelnuts and Almonds ; and they frequently work their Paste with Orange-Water, which they think gives it a greater Firmness and Consistence. Sometimes the Cakes are made up of the Nut without any Admixture, those that use it being left to add what Quantity they please of Sugar, Cinnamon, &c. And this plain Method is usually follow'd in *England*, except that sometimes Sugar and sometimes Vanelloes are

F 2

added,

added, scarce any other Ingredients being known amongst us. — It is said that in *New Spain* there is such a Quantity of Chocolate made as to use annually twelve Millions of Pounds of Sugar.

ANIMALS.

THE New World affords the curious Naturalist a vast Variety of remarkable Animals, and especially the Southern Parts of it, where we find the *Mantegar*, described by Dr. *Tyson* as about the Bigness of a Mastiff Dog, with a Head fourteen Inches long, and something resembling that of a Horse. It has large Nostrils, and its Nose is depressed lower than the upper Jaw. It has a large Tuft of Hair on the Forehead and under the Chin, and its Fore-feet exactly resemble Hands, having long and thick Fingers and a Thumb, the Nails whereof are flat, but those of the hinder Toes are not so. The Fore-part of its Body and the Inside of its Arms and Legs are almost bare of Hair, but the Outside is cover'd with Hair, which is of a motley brown and Olive Colour. It has a Navel, and Paps on the Breast, feeds chiefly on Fruits, and will sit and support itself by a Stick in one Hand, and drink out of a Cup held in the other. It has two long Tusks in the upper Jaw, has no Tail, and is a very fierce and lascivious Animal.

THE



The Mantiger

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THE *Cuandu* of *Brasil*, according to Dr. *Tyson*, is a Sort of Porcupine, described by *Margrave* and *Nieuboff*, which has but four Toes on the fore Feet and five on the hinder ones; so that, as *Margrave* observes, for Want of what may be call'd the Thumb, it is but slow in climbing Trees; but has a way of twisting its Tail about a Bough, and thereby frequently saves itself from falling. — The *Tamandua*, another Animal of *Brasil*, has only four Toes before, but five behind, and also makes use of his Tail in climbing.

THE *Coati Mondí* of *Brasil* is represented differently by different Writers, but is usually said to have a Snout about a Foot long, small Eyes like a Pig, round Ears like a Rat, and Hands like those of a Monkey. Its Hairs are short, rough, and of a blackish Colour on the Back, the rest of the Body having a Mixture of Black and Red. This Animal is rank'd by Dr. *Tyson* among the Number of those he chuses rather to call four-handed than four-footed, of which some have no Thumb on the fore Feet, and others none on the hinder Feet. Of the former Sort he reckons the *Vantrevan*, (as it was called by the Person who shew'd it in *London*) which is a beautiful Creature, has a long Tail, and is very brisk and nimble.

THE *Patto*, or *Sluggard*, is likewise one of this Kind of Animals, having a Head not unlike an Ape's, and (as *Margrave* says) two Teats.

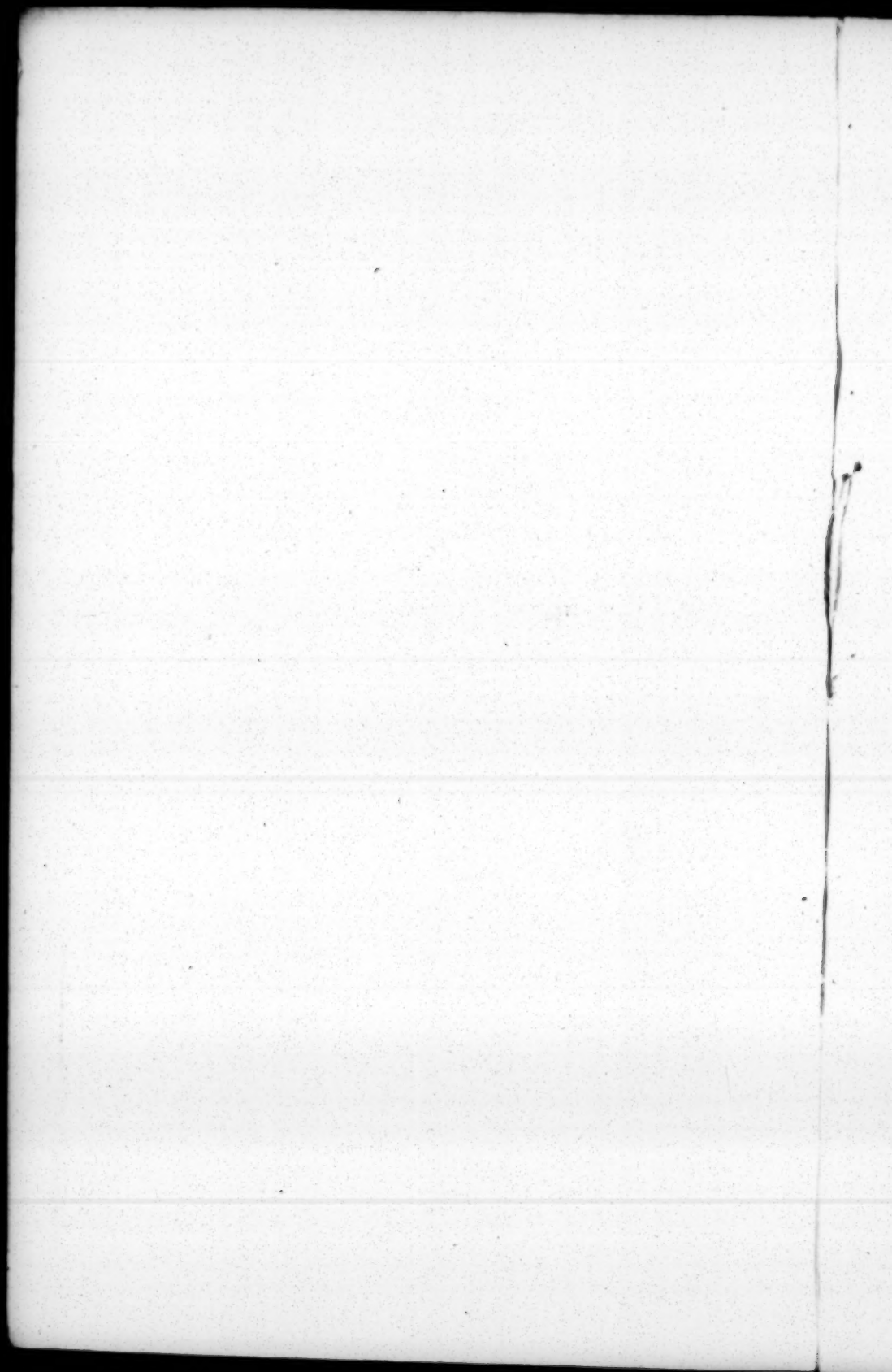
on the Breast ; but it has only three Claws on each Foot, with very long Nails, like the *Tamandua*. It has its Name from the Slowness of its Motion, which (says *Coetlogon*) is like that of Auxiliaries going to fight, for he scarce advances ten Steps in a whole Day. When he ascends a Tree, he does not leave it till he has devour'd both the Fruit and the Leaves, and then comes down in good Plight, but grows lean before he gets up another, if he does not perish with Hunger.

THE *Opossum*, which is a Native of *Brasil* and other Parts of *America*, is a very remarkable Animal, in Shape and Size like a Badger, but of a lighter Colour, and with a longer Tail. What is most wonderful in this Creature, is the Bag or Purse in the Skin of its Belly, to which its young ones retire and hide themselves in case of Danger. In the male *Opossum* however this Pouch is not discernible, only the Skin in that Place, according to Dr. *Tyson's* Observation, seem'd to be looser, so that he could thrust it in with his Finger, and by turning it round form a Sort of Bag, but which, on withdrawing his Finger, returned to its former Position ; and for this Reason the Doctor leaves it as an uncertain Point, to be determined by those who live where these Animals are bred, whether this Part of the Skin is capable of being form'd upon Occasion into a Pouch, and whether they ever observe

The Opossum



Wm. P. H.



serve the male *Opossum* to receive the Young as the Female does *.

PERHAPS the Reader will not be displeased if we are a little more particular in our Account of an Animal so remarkable, which we shall chiefly take from the Doctor already cited, and Mr. *Cowper*, who have both publish'd their anatomical Observations on the *Opossum* in the *Philosophical Transactions*. That which Dr. *Tyson* dissected, (whereof we have given a Figure drawn from the Life) measured two Feet seven Inches from the Extremity of the Nose to the Tip of the Tail, the Length of the Head was six Inches, that of the Tail twelve, and the Circumference of the Body fifteen Inches and a half when dead, but when alive and well it seem'd much thicker. Its fore Legs were six Inches long, the hinder ones only four and a half, and the Tail near the Root was three Inches in Compass. The Apertures of the Eyelids were not horizontal, but lying in a strait Line from the Eyes to the Nose. The Ears were not sharp, but of a roundish Figure, and about an Inch and a half in Length, which was almost the Dimension of the Mouth when

* Dr. *Derham*, speaking of the Care that Animals have of their Young, mentions the *Opossum* and its curious Bag, quoting Dr. *Tyson*, as we have done; who also takes notice of the *Dog-*

Fish, (from *Oppian*) which upon any Storm or Danger receives its young ones into its Belly: And the same is said of the *Squatina* and *Glaucus*.

open'd

open'd, from one Corner to the Extremity of the Nose. The hinder Feet had four Fingers armed with long crooked Nails, and a perfect Thumb, set off at a distance from the Range of the other Fingers, as in a human Creature; and the fore Feet had five long Claws or Fingers, equally ranged with each other, and a hooked Nail at the End of each Finger. This Formation of the Legs, Feet, and Nails, seems very advantageous to the Animal in climbing up Trees, which it does very nimbly in Pursuit of Birds, a Prey it is extremely fond of, though that is not its only Food. These Fingers and Claws are naked, and without Hair; the Skin being of a reddish Colour. The Palms, if dilated, which the Creature does in climbing; are large, but so contrived as to be capable of Contraction, which is likewise the Case in its walking; and that the Palms might be the better defended from Injury, at the setting on of each Toe there is in the Palms a protuberant, fleshy, and almost cartilaginous Body. In feeding it makes use of its fore Feet to bring the Food to its Mouth, as Creatures of the Monkey and Squirrel Kind. The Tail is without Hair, except for a little way near the Root, from whence it tapers to the Extremity; and is cover'd with a regular Order of small whitish Scales, which for the most part are of an oblong hexagonal Figure. Between each there is observable small Skin or Membrane, in which they are fix'd, and which is of a darker Colour.

The

The Ears of this Creature are bare and without Hair, and, though soft and slender, and in Colour and Substance almost resembling the Wing of a Bat, are erect, and of an oval Figure. Its upper Jaw is somewhat longer than the under, its Eyes small, black, vivid, and exerted when alive, but very much sunk when dead. The Neck is short, the Breast broad, and it has Whiskers like those of a Cat. On its Back and Sides it is of an Ash-Colour, or dappled with black Hairs in Spots intermix'd with white, but its Belly is more of an Amber Colour.

UNDER the Belly, between the two hinder Legs, is a Slit or Aperture, about two Inches long, but capable of greater Extension, by dilating it with the Fingers; and this the Animal can so exactly close and contract, that the Eye does not readily discern it. On each Side of it there is a Reduplication of the Skin inwards, which forms a hairy Bag, though the Hairs are very thinly set, so that the Skin is almost every where to be discover'd. This is the *Marsupium*, Bag, or Purse, already spoken of, which all Authors agree is intended to preserve the Animal's Young, and secure them against Danger; and the Contrivance of Nature in forming and adapting this Part to that End is admirable, there being two strong Bones, not to be met with in any other Skeleton, which have no Motion nearer or farther from each other, but stand always at an equal Distance; and these
Bones

Bones are furnish'd with four Pair of Muscles, over which runs another Pair, which perform the Office of a Pulley. In the male *Opossum*, which Mr. *Cowper* dissected, the *Marsupium* was not perceptible, nor the Muscles belonging to it; but that Gentleman, as well as Dr. *Tyson*, observ'd the Bones just mention'd, and Muscles running from them to the hinder Legs, which are undoubtedly serviceable to the Creature in drawing up its Body. This *Marsupium*, the Doctor found, is a membranous Body, not very thick, though consisting of several Coats, which perform the Office of Motion and Secretion; for the Cavity of the Pouch is somewhat hairy, and the Doctor observed the Hairs matted together by a yellowish Substance, which ouzed out of the cutaneous Glands. This Liquor, discharged into the Pouch from the glandulous Coat, was of a strong Scent, and had more of the peculiar *Fætor* of the Animal than any Part besides; but after the Skin, together with the Pouch, had been kept for some Days, and was grown dry, there was so great an Alteration in the Smell, that what was before very disagreeable, was now become a perfect Perfume, resembling exactly the Smell of Musk. In this Pouch most Authors place the *Mammæ* or Teats, but Dr. *Tyson* found none, nor even on the outward Skin, as is usual in other multiparous Animals; though he imagines the *Opossum*, the Subject of his Dissection, might never have had a Litter,
and

and for that Reason the Teats might escape his Notice.

THE *Opossum* being a carnivorous Animal, and particularly fond of Birds, is endued by Nature with a Faculty of twisting its Tail about a small Branch of a Tree, and thereby stretching itself out to rob a Nest, or obtain its desired Food: Nay, by this Means it may be said to fly; for hanging thus by the Tail, and swinging its Body to and fro, it can fling itself into a neighbouring Tree, where its Tail is sure to fasten on the first Bough it meets with, if it otherwise misses its Footing; and its hinder Feet being made like Hands, and furnish'd with a Thumb, it thereby the more readily raises its Body.

ANOTHER Thing observable in this Animal is, that when it is in Health there runs a small Edging round the Verge of the Ear, of a perfect Milk-white Colour; but this Part of the Ear being very thin and tender, it is easily affected by Cold or Illness, and then becomes jagged or crumpled, and the Whiteness disappears: And it is on this account that *Margrave*, in his Description of the *Tai-ibi* of *Brasil*, (which *Dr. Tyson* takes to be the male *Opossum*) says it has white Ears*; not that the whole Ear is white, but only the Edges.

* *Margrave's* Words are, *les, graciles, albas, teneras ut*
It has *aures subrotundas, mel-* *charta.*

It would be tedious to give the Doctor's whole Account of his Observations on the *Opossum* he dissected, though we would not willingly omit any Particular that might be entertaining. We therefore add, what seems a peculiar Provision made by Nature for the Safety of the Animal, that the *Vertebrae* of the Neck are so strongly and closely lock'd into each other, that though each of them may be reckon'd large in itself, yet thus articulated they do not make full two Inches in Length; which Thickness and Strength of these *Vertebrae*, as well as those of the *Thorax* and Loins, and the prominent bony Ridge in the *Cranium*, so well secure its Neck, Back, and Head, that there would be no Danger of breaking any of them, if in jumping from Bough to Bough it should happen to fall to the Ground.

We come now to an Animal of such a Magnitude and Strength, as, if not attested by Authors of unquestionable Veracity, we should not have ventur'd to describe or mention. This is the *Cuntur* or *Condor* of *Peru*, which Sir *Hans Sloane* (from the Account of Captain *Strong*, Commander of a *South-Sea* Ship) has taken notice of in the *Philosophical Transactions*. This is an Animal of the feather'd Race, and of such an amazing Bigness, that the Captain's Men, who shot one and measured it, found it was sixteen Feet from the Extremity of one Wing to the other. One of its Feathers was two Feet four Inches long, the Quill-Part near six Inches, its
Weight

Weight three Drams and above seventeen Grains, and was concave on one Side and convex on the other. The Seamen shot it as it sat on a Clift by the Sea-side, and eat it, taking it for a Species of Turkey. They were told by the *Spaniards* that they were afraid of these Birds, lest they should prey upon or injure their Children.

To this Account it seems proper to add the Testimony of *Acosta* and *Garcilasso de la Vega*, who say that the Fowls corruptly call'd *Condor* by the *Spaniards* measured fifteen or sixteen Feet from the End of one Wing to the other; and that their Beak is strong enough to tear off the Hide or rip open the Bowels of an Ox. Two of them will attack a Cow or Bull, and devour him; and it has happen'd that one of them has assaulted and eaten Boys of ten or twelve Years of Age. But it is observ'd, that Nature, to temper and allay their Fierceness, has denied them the Talons which are given to the Eagle, their Feet being tipp'd with Claws like a Hen. They are black and white, like a Magpye, and on the fore Part of their Head have a Comb not pointed like that of a Cock, but rather even, in the Form of a Razor. It is very well, says our Author, there are but few of them, otherwise they would much destroy the Cattle*.

* Dr. *Derham* observes, have commonly fewer
that Creatures less useful, or Young, or seldomer bring
by their Voracity pernicious, forth; of which many In-
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IN *Brasil* we find a great Number of curious Birds, particularly the *Anbima*, or *Unicorn Bird*, so call'd because it has a Horn two or three Inches long growing out of its Forehead, but blunt and brittle, and therefore of no Defence to the Creature.—There is also the *Toukan*, of the Bigness of a Wood-Pigeon, of a perfect jet Black all over, except under the Belly, where it is of a fine Yellow, and round its Neck is a small Circle of Red. The Natives bedeck themselves with the Feathers of this Bird, on occasion of Festivals, Dancing-Matches, or other Rejoicings. But what is most remarkable is, (if the Account may be credited) that the Bird's Bill is larger than its whole Body, being about a Span long, yellow without and red within.—Another Bird of *Brasil* is call'd the *Cocoi*, which is shaped much like our Storks, and has a most curious Variety of Colours on its Feathers.—The *Guara*, which the *Europeans* call the *Sea-Curlew*, is surprizing for its often changing its Colour, being first black, then ash-colour'd, next white, afterwards scarlet, and lastly crimson, which grows deeper and richer the longer the Bird lives.—Parrots, Parroquets, and va-

stances might be given in voracious Beasts and Birds, but there is one (says he) very peculiar, which is the *Cuntur* of *Peru*, a most pernicious Bird, and therefore

very rare, being seldom seen; and only just enough of them to keep up the Species, but not to over charge the World.

rious Birds of the same Species, are there as common as we have Pigeons; and though some of them are most beautifully feather'd, they are in too great Plenty to be esteem'd by the Natives, except now and then to use their Feathers as Ornaments.—Of the eatable Fowls they have Turkeys very large and delicious; and the same may be said of their other Kinds of Poultry, especially a white Sort of Hens, whose Feathers they dye of a fine Green, and mix with those of other Birds, which they wear about their Heads and Middle. They have likewise Plenty of Ducks and such-like Water-Fowl, but it is said the *Brazilians* will not eat them, thinking them infectious: Neither will they eat any Kind of Eggs, esteeming them unwholesome, if not poisonous; and are surpris'd to see the *Europeans* so fond of them, and eat them without Injury.—The Bats of *Brazil* (like those of the *East Indies*) are reported to be of a prodigious Size, and so bold and dangerous, that they will get into Houses in the Night, and suck the Blood of Persons whom they find asleep.—Their Bees are smaller than ours, and with their Wax they cover and preserve their fine Feathers from being gnaw'd by Worms or Insects.

WE think the several Species of Sheep to be met with in *Peru* are worthy the Notice of the Curious, particularly those call'd *Llama's* by the Natives. Their Heads are small in Proportion to their Bodies, somewhat resembling

both that of a Horse and a Sheep, but the upper Lip is cleft in the Middle, like that of a Hare, through which they can spit from them to the Distance of ten Paces; and this Spittle, it is said, if it falls on any one's Flesh, makes a reddish Spot, which is follow'd by an intolerable Itching. Their Necks are long, bowing downwards like the Camel's; which Animal, except the Bunch on the Back, they pretty much resemble. Their Height is from four Feet to four and a half, and they generally carry a hundred Weight, walking with their Heads erect, looking grave and majestic, and with such a regular Pace that it is scarce to be alter'd by beating. These Sheep eat but little, and seldom or never drink, so that they are very easily kept, grazing upon a short Herb like a Rush, with which the Mountains of that Country are cover'd. It seems they are used by the *Spaniards* in the Mines to carry Ore to the Mills; and when they are once acquainted with their Stage, they want no Guide or Driver. Above the Foot they have a Spur, which they make use of to hold by among the Rocks, so that they are wonderfully sure-footed. Their Wool has a strong Scent, and somewhat disagreeable; it is long, white, grey, and fine.

THE *Vicunna's* of *Peru* are shaped much like the *Llama's*, only they are smaller and nimbler, and their Wool being extraordinary fine is very much valued. These Creatures are sometimes hunted in the following Manner: Many
Indians

Indians get together to drive them into some narrow Pass, where they have made Ropes fast across, three or four Feet from the Ground, on which are hung Bits of Wool and Cloth. At the Motion of these the Animals are so frighten'd, that they dare not go any farther; so that they crowd together, and the Hunters kill them with Stones made fast to the End of leather Thongs. If any of those Creatures call'd *Guanaco's* happen to be amongst them, they leap over the Cords, and the *Vicunna's* follow them. The *Guanaco's* are larger and more corpulent, and in some Parts are call'd *Vicacha's*.

OF the Animals found on the Coasts of *America*, particularly *Brasil*, *Terra Firma*, and many of the neighbouring Islands, we know of none more deserving the Attention of the Curious than the *Turtle* or *Tortoise*. But it is to be observ'd there are two Kinds of Tortoises, the Land and the Sea Tortoise; and this latter again is of various Kinds, but it is only one Sort, call'd the *Caret* or *Caretta*, which furnishes that beautiful Shell* so much admired in *Europe*. This is othewise call'd the *Hawk's-bill* Tortoise, whose Shell is thick, and consists

* Mr. *Catesby* observes, that the hard strong Covering which incloses all Sorts of Tortoises is very improperly call'd a Shell, being of a perfect bony Contexture,

but cover'd on the Outside with Scales, or rather Plates, of a horny Substance, which the Workmen call *Tortoise-shell*.

of two Parts, the one covering the Back, the other the Belly, and the two are join'd together at the Sides by strong Ligaments, which yet allow of a little Motion. In the fore Part is an Aperture for the Head and fore Legs, and behind for the hind Legs and Tail. We are told that the under Shell alone is used, which they separate from the upper by making a little Fire underneath, and as soon as it is warm it is easily taken off in *Lamine* or Leaves with the Point of a Knife, without killing the Animal, which (it is said) being turn'd to Sea again acquires a new Shell. These Leaves are thirteen in Number, eight of them flat, and five a little bent; and four of the flat ones are sometimes a Foot long, and six or seven Inches broad. The best Tortoise-shell is thick, clear, transparent, and sprinkled with Brown and White; but when used in Marquetry, and such-like Works, the Workmen give it what Colour they please by laying colour'd Leaves underneath it.

OF the several Kinds of Tortoises only one of them is eatable, which is call'd the *Green Tortoise*, its Fat being of a greenish Colour. The Method of taking them is to observe their Tracks in the Sea Sands, and the next Night sit up to watch, and turn them on their Backs, for then they are quite helpless. Their Blood is cold; and Mr. *Smith* informs us, that he has seen, upon opening one of them, at least two hundred Eggs, exactly round, taken out of it, about

about forty of which were inclosed in whitish tough Skins, with a Substance like Jelly round the Yolk, and were ready to be laid all at one Time. *Rogers* says, he saw at some Islands in the *South Sea*, a Turtle that had at least eight hundred Eggs in its Belly, a hundred and fifty of which were skinn'd and ready for laying. The female Turtles go ashore to lay their Eggs in the Sand, above High-Water Mark, where they leave them to be hatched by the warm Beams of the Sun; and this is effected in eight and forty Hours time*, as our Author was inform'd by those who made it their Business to fetch them from some uninhabited Islands, where they are vastly plenty; and where they see, almost every Day, great Numbers of young ones, not broader than a Shilling, newly hatch'd, hastening down into the Sea. The same is asserted by *Rogers* above quoted; for as they are frequently disturbed in inhabited Places, they seldom go ashore there; and it is observ'd that the Hawk's-bill Turtles do not often come amongst others.

ALMOST incredible Particulars are related of the Size of some Turtles, as that one of them will afford Flesh enough for two or three hundred Men, which is salted as we do Beef, and which Seamen in long Voyages find an excellent Refreshment, as well as a Cure for several Indis-

* Other Accounts say in which seems far more probable, about five and twenty Days,

positions. Their Eggs, which are about the Bigness of a Hen's, will also keep for a considerable Time, and are esteem'd good Food in many Parts of the *West Indies*.—We are likewise told that in some Places the Shells serve the Natives for Boats; and *de Laet* mentions Turtles of such a Bulk as to creep along with five Men upon their Backs.

THE Turtles being amphibious, they feed on Grass and Weeds, as well in the Water as on the Land; but they usually make their Residence and find their Aliment in certain Meadows at the Bottom of the Sea, where it is not many Fathoms deep: And according to the Accounts of Navigators, when the Sea is calm and the Weather serene, they may be seen creeping on this green Carpet. After they have fed sufficiently, they take their Progress into the Outlets of Rivers for fresh Water or Air, and then return to their former Station. In the Intermision of their Feeding they frequently float with their Heads above the Surface of the Water, unless they are alarmed by any Appearance of Danger, in which Case they suddenly plunge to the Bottom; for the Tortoise having the Benefit of Lungs, she can distend herself by an Influx of Air, and be brought to an Equilibrium with the Water, like a Frog; and, like other amphibious Creatures, she is enabled to swim by the Impulse and Retraction of her Paws, though for the Generality she contents herself with creeping.

SHELLS

SHELLS in general make a very curious Part of Natural History, on account of their great Variety, the uncouth Make of some, and the beautiful Colours and pretty Ornaments of others; but, as Dr. *Derham* observes, it would be endless to descend to Particulars, and therefore he only mentions that of the Tortoise. But besides the Beauty of this Covering, it is an Instance of the excellent Provision the wise Creator has made for the Good of the Animal World, being a stout Guard to its Body, and affording a safe Retreat for its Head, Legs, and Tail, which it withdraws within the Shell upon any Danger. And it is worth remarking, that that the Shell supplies the Place of all Bones in the Creature, except those of the extreme Parts, the Head and Neck, and the four Legs and Tail: So that at first it is somewhat surprizing to see a compleat Skeleton consisting of so small a Number of Bones, and yet those abundantly sufficient for the Use of the Animal.

THERE remains another remarkable Thing to be mention'd concerning these Creatures, which is, that for two or three Months in the Year they leave their common Haunts, where they chiefly feed, and resort to other Places to lay their Eggs; and it is thought they eat nothing during that Season, so that both Males and Females grow very lean. This however is certain, that the Land-Tortoise, who is form'd much in the same Manner as those of the

Sea, is able to subsist several Months without Food; for those which are kept in Gardens out of Curiosity in *England* are observ'd to bury themselves in the Ground on the Approach of Winter, and there remain in a Kind of sleepy State, till the Return of the Spring invites them to leave their subterraneous Retirement; for which, according to Dr. *Derbam*, they are admirably adapted by the Structure of their Heart and Lungs*.

* To the long Abstinence of brute Animals our Author adds one or two Instances of extraordinary Abstinence among Mankind; and first that of *Martha Taylor*, born in *Derbysbire*, who by a Blow on the Back fell into such a Prostration of Appetite, that she took little Sustenance but some Drops with a Feather for thirteen Months, and slept very little too all the Time. The Dr. then mentions the Case of *S. Chilton* of *Tinsbury* near *Bath*, who often slept for several Weeks together; which Case being very extraordinary, we hope an Extract of it from the *Philosophical Transactions* will not be unacceptable to the Reader. This *Chilton* was a labouring Man, about twenty-

five Years of Age, not fat but fleshy, and on the 13th of *May* 1694, without any visible Cause, fell into a profound Sleep, out of which he could by no means be roused by those about him, but after a Month's Time he rose of himself, put on his Cloaths, and went about his Business of Husbandry as usual. From this Time till about the 9th of *April* 1696, he remain'd free from any extraordinary Drowsiness, but then fell into his sleeping Fit again. After some Days his Friends were prevailed on to try what Remedies might effect; and accordingly one Mr *Gibbs*, an Apothecary, bled, blister'd, cupp'd and scarified him, and used all the external irritating Medicines he could

AFTER

AFTER the Tortoise it is natural enough to mention the *Armadillo*, an Animal found in the *West Indies*, and in *Guinea*, which has its Back cover'd with a hard Shell, that seems to be buckled to it like a Coat of Armour. Its Tail is long like a Rat's, and is also cover'd with a

think of, but all to no purpose. Victuals stood by him (as before) which he eat now and then, but no body ever saw him eat or evacuate, though he did both as he had Occasion; and sometimes they found him fast asleep with the Pot in his Hand in Bed, and sometimes with his Mouth full of Meat. In this Manner he lay till the 7th of *August*, which was seventeen Weeks from the Time when he began to sleep; and then he awaked, put on his Cloaths, and walked about the Room, not knowing he had slept so long, till going into the Fields he found People busy in getting in their Harvest, and he remember'd that when he fell asleep they were sowing their Oats and Barley. From this Time he remained well till the 17th of *August* 1697, when he complain'd of a Shivering and a Coldness in his Back, vomited once or

twice, and the same Day fell fast asleep again. Dr. *Oliver* (from whom this Account is taken) went to see him, and felt his Pulse, which was then very regular, he was in a breathing Sweat, and had an agreeable Warmth all over his Body. The Doctor then put his Mouth to his Ear, and call'd him as loud as he could several times by his Name, pull'd him by the Shoulders, pinch'd his Nose, stopp'd his Mouth and Nose together, but to no purpose, the Man not giving the least Sign of his being sensible. Upon this the Doctor held a Phial with Spirit of *Sal Armoniac* under one of his Nostrils, and injected about half an Ounce of it up the same Nostril, but it only made his Nose run, and his Eye-lids shiver and tremble a little. Finding no Success this way, the Doctor cramm'd that Nostril with Powder of white Heilebore, and waited some

scaly

scaly Shell. The whole Creature is not much bigger than a little Pig, which it resembles in its Snout, Ears, Legs, and Feet. It has four Toes before, and five behind.

AMONG the Fishes to be met with in the Seas of *South America*, particularly on the Coast of *Brazil*, is a remarkable one call'd the *Globe-fish*, from its orbicular Form, or the *Sea Hedgehog*, as being beset all round with large Spikes

time to see what Effect it would produce; but the Man did not discover the least Uneasiness. The Doctor then left him, fully satisfied that he was really asleep, and no sullen Counterfeit, as some People supposed. About ten Days after, an Apothecary took fourteen Ounces of Blood from his Arm, tied it again, and left him as he found him, without his making the least Motion all the while. The latter End of *September* Dr. *Oliver* saw him again, and a Gentleman ran a large Pin into his Arm to the very Bone, but he gave no Signs of being sensible what was done to him. In this Manner he lay till the 19th of *November*, when his Mother hearing him make a Noise ran immediately up to him, and found him eating. She

ask'd him, *How he did?* Very well, he said, *thank God*: And again she asked him, *Which he liked best, Bread and Butter, or Bread and Cheese?* He answer'd, *Bread and Cheese*: Whereupon the Woman overjoy'd ran down to acquaint his Brother with it, and both coming up again presently they found him as fast asleep as ever. Thus he continued till the End of *January* or Beginning of *February*, at which Time he awaked perfectly well, remembering nothing that had happened all the while. It was observ'd, that he was very little alter'd in his Flesh, only he complain'd the Cold pinch'd him more than usual, and so went about his Business as at other Times.

like

like those of the Land one, whereby it bids Defiance to all Fishes of Prey, and has a surprizing Facility of moving itself forward on the Water by the Contraction and Motion of those Prickles.

BUT of all the Animals in these Seas, there seems to be none more curious than the *Sea-Bladder*, which has not been taken notice of by many Authors. It is not unfitly stiled a Bladder, being in most Respects like one, and swimming on the Surface of the Waves. It is of an oblong roundish Form, five or six Inches in Diameter, has a Skin very thin and transparent, and, like a Bubble raised on the Water, reflects all the Colours of the Sky. The Inside is only fill'd with Air, except about a Spoonful of Water which serves to balance it; and underneath it has a Set of Fibres of a vermicular Form, which the Creature extends or contracts, and thereby moves itself along. On its Back it has a Kind of plaited Membrane, which it likewise expands or folds up at pleasure, in order to take in more or less Wind; and it is only by these two last Circumstances that they are known to move spontaneously, except when the Wind is too strong for them to resist, by which they are frequently drove on Shore and taken.

IN the Seas we are speaking of, (as well as in some others) is to be found the little Fish call'd the *Remora*, or *Sucking-Fish*, resembling a Herring, with Crest and Fins, having a Sucker

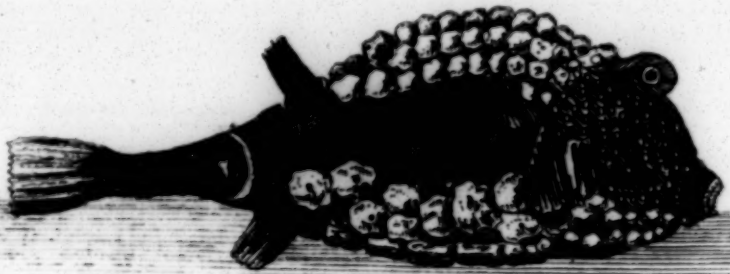
about two Inches long on the Top of his Head. The Mouth is wide, the Eyes small, the under Jaw longer than the upper, with two Rows of small sharp Teeth. This Fish was much talked of amongst the Ancients, who supposed (as appears from *Pliny*) that by sticking to the Side of a Ship, it was able to stop the Vessel under full Sail, or a Whale in swimming*. But, as Mr. *Catesby* observes, a Number of these Fishes can do no more than Shells, or Corals, and other Foulnesses of the same Bulk, which make a Ship somewhat slower; and in the same Manner they may be some small Hindrance to a Whale. The same Author assures us he has taken five of them off the Body of a Shark; and hence we call it the *Sucking-Fish*.

To this we may add the *Pilot-Fish*, so call'd as supposed to accompany the Shark, and direct him to his Prey; and *Coetlogon* assures us, from his own certain Knowledge, that the Shark is always attended by one or two of these Fish, which on that account he will not devour, tho' never so hungry; but this favours too much of Fable.—The Fish is of a deep Blue, but the Belly of a lighter Colour than the Back and Sides; and when swimming it appears much like a Mackerel.

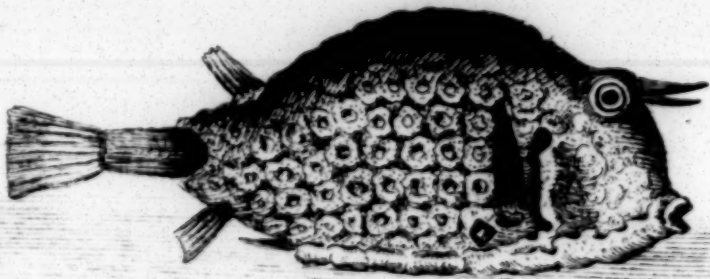
In the Seas of *South America*, and especially about the Tropics, are often seen swimming in

* Hence they gave it the Name of *Remora*, from *remoror*, to *stop* or *binder*.





Old Wife fish.



Old Husband fish.

Shoals those Fishes we call *Old Wives** and *Old Husbands*, which indeed make a very remarkable Figure. The former is commonly about ten Inches long, and five in Breadth; has a very small Mouth, with sharp Teeth, a large Eye placed high on its Head, two Nostrils or Vent-Holes under the fore Part of the Eye, a rising sharp Back, the Belly flattish, and the whole Fish is cover'd with a hard crustaceous Skin, of a brown Colour, but curiously mark'd with indented Spots, which are large on the Sides, and smaller about the Head and Tail. The Tail is long and slender, and the Fish can draw it into its Body at pleasure, as it were into a Socket. It has four Fins of a lighter Brown than the Body, as is also the End of the Tail.

THE *Old Husband*, supposed to be the male Species, seems design'd by Nature for the Defence of the female, as well as his own, being arm'd with two sharp Horns on the fore Part of his Head, growing from a thick Basis, about three Quarters of an Inch in Length; and tho' but slender, they are so strong, that he is capable of giving dangerous Wounds to the Sides of an Enemy. His hinder Part is likewise well guarded with two long Fins like his Horns, one on each Side of the Belly near the Tail; and when closely chased, he draws up his Tail,

* *Paiscoe Thomas* says, they found Plenty of these Fish (amongst others that he mentions) at the Island of *St. Catharine's* on the Coast of *Brazil*.

and bids Defiance with his Horns to his Pursuers. These two Fishes swim together in Company, and, except the Horns, they pretty much resemble each other.

BUT to return to the Land, where we shall find some remarkable Animals not yet mention'd; and first it may not be improper to take notice of what some Travellers relate concerning the various Kinds of Monkeys to be met with in the *Andes* and other Parts of *South America*. Some of them are said to be merry, others melancholy; some nimble, and others heavy; some hairy, others almost naked; of themselves timorous, but taking Courage if a Man seems to be afraid. There are likewise vast Numbers of Apes, somewhat different from Monkeys, with long Tails, and of several Colours, some black, some grey, &c. We are told strange Things of the Nimbleness of these Creatures, that they skip about the Trees like Birds, and sometimes hang to a Bough by the Tail, and so swing themselves where they please; and that when the Leap is too great for one alone, they lay hold of each other's Tails, and so swing till the lowermost, with the Assistance of the rest, gives a Spring and lays hold of the Bough, and so they all get over.—But of these and other Stories related concerning them, the Reader is to believe just as much as he thinks proper.

OF the like Nature is the Account we have of Herds of Swine among the Mountains above-mention'd,

mention'd, which have Navels on their Backs, and every Herd has its Leader, who is easily known because none of them presume to go before him; and when this Leader is kill'd, the Herd may be safely attack'd, for they disperse as a vanquish'd Army. It is also said of these Creatures, that some of them will rub themselves against certain Trees whose Blossoms they are fond of, and so shake them off for the rest to eat, who in their Turn do the same for their Companions.

BUT the most surprizing Relations Travellers entertain us with are concerning the Multitude and monstrous Size of the Serpents of *Brasil*. We are told of some that are thirty Feet long or upwards, and as big about as a Hogthead*, so that they can swallow at once a whole Buck or a Man, and easily take either of them by throwing their Tails round them; and hence this frightful Creature has obtain'd the Name of the *Roebuck Serpent*. Nay, to carry the Matter still farther, we are likewise told of a Water-Snake in *Brasil*, near forty Feet long,

* This somewhat exceeds the Account we have already given of the Serpents of *Congo*, in *Vol. III. p. 433*; but the Dimensions so nearly agree, that we suppose they are of the same Species, if there are in reality any such Serpents in Nature. Mr.

Rogers tells us, that he much suspected the Truth of the Account he had of this monstrous *Brasilian* Serpent, till he had it confirm'd by the Governor of the Country. — Let the Reader judge for himself.

and every way proportionable, in whose Body were found two wild Boars he had swallow'd. —As for the *Amphisbæna*, or Serpent with two Heads, it is generally look'd upon as a fictitious Animal.

THOUGH these Accounts may be exaggerated, it is certain that *Brasil* is remarkable for large Serpents and other venomous Creatures. There is one call'd *Ibaboka*, which is between three and four Yards long, and of a considerable Thickness. Its Colours are various, as black, white, red, green, &c. and its Bite mortal, but the Poison works the slowest of any. On the other Hand they have a little four-legg'd Animal of so venomous a Nature, that its Sting is absolutely mortal, unless the Part be immediately cut off, or burnt with a red-hot Iron. Some of their Scorpions are four or five Feet long, but their Sting is not reckon'd so dangerous as those in *Europe*. They have also Lizards three or four Feet in Length, and in great Numbers; and also Creatures call'd *Centipedes*, or *Hundred Legs*, very venomous and troublesome. Add to these those little Animals (mention'd in the *Philosophical Transactions*, N°. 139.) call'd *Poux de Pharaon*, that is *Pharaoh's Lice*, which get into the Feet between the Skin and the Flesh, growing in one Day as big as Beans; and if they are not presently extracted, they cause an intolerable Ulcer, and the whole Foot corrupts.

WE shall finish this Article, on which we have been more than usually prolix, with an Account of the *Rattle-Snake*, an Animal for which *Brazil* is remarkable, amongst others of the Serpent Kind, though not peculiar to that Country, but found commonly enough in most of the warm Parts of *America*; and we shall be the more particular on this Subject, as the Creature has afforded Matter of Speculation and Wonder to the most curious Inspectors into the Works of Nature. To begin then with its Name: It is so call'd from certain Joints at the End of its Tail, which fold over each other somewhat like the Tail of a Lobster; and these being shook by the Animal make a rattling Noise, from whence we have given it the Denomination of *Rattle-Snake*. The Number of these Joints or Rattles is uncertain, being more or less according to the Age of the Snake, as some Authors assert, imagining that every Year there is the Addition of a new Rattle. However, they seldom exceed twenty, though Mr. *Dudley* (in *Phil. Transf.*) was told by a Man of Credit, that he kill'd a Rattle-Snake, which had between seventy and eighty Rattles, with a Sprinkling of grey Hairs, like Bristles, all over his Body, and that it was full five Feet six Inches long, and as big as the Calf of a Man's Leg. Dr. *Derham* and others have observ'd, that Providence has wisely given these Rattles to this poisonous Serpent, that the Noise might
be

be a Warning to Man and Beast to avoid the approaching Danger.

THE usual Length of the Rattle-Snake is from three to five Feet: Dr. *Tyson* dissected one four Feet five Inches long, whose greatest Circumference, which was in the Middle, was six Inches and a half, that of the Neck three Inches, and near the Rattle two Inches. The Top of the Head was flat as in the Viper*, and by the Protuberance of the Jaws it somewhat resembled the Head of a bearded Arrow. At the Extremity of it were the Nostrils; and between them and the Eyes, but a little lower, were two other Orifices, which the Doctor took for Ears; but he afterwards found they only led into a Bone that had a pretty large Cavity, but no Perforation. The Eye was round, and about a Quarter of an Inch in Diameter, over which there was a large Scale jetting out, which seem'd to serve it for an Eyelid. The Scales on the Head were the smallest of any, those on the Back the largest, increasing in Proportion to the thickest Part of the Body, and thence diminishing again to the Junction of the Rattle, all of them in Figure somewhat resembling the Seed of a Parsnip. They were

* Our Author, upon the Dissection of this Snake, found its Parts, both external and internal, so much like those of a Viper in almost all Respects, that he

does not scruple to place it in that Class; and from the Rattle, which sufficiently distinguishes it from all other Serpents, to name it *Vipera caudifon.*

of

of various Colours, those on the Head being like the Feathers on the Back of a Green-finch, speckled with a small black Spot, four of which were larger and very remarkable. Those on the Back were a dark Fillemot and speckled, forming by this Mixture a curious Chequer-Work; but as they grew nearer the End of the Tail, they became darker, and at last almost black. The Scales on the Back had an edged Rifing in the Middle, which was still less protuberant nearer the Sides, where they were flat. The Belly was cover'd with long Scales of a yellowish Colour, and speckled with Black; but beyond the *Anus* there were some Scales of a Lead-Colour, and from them to the Rattle were six Rows of smaller Scales of the same Colour. The Scales of the Belly were join'd together by distinct Muscles, the lower Tendon of each Muscle being inserted into the upper Edge of the following Scale, and the other Tendon of the same Muscle inserted about the Middle of the preceding Scale. To each Scale a Rib was appropriated, whose Point was join'd with the Extremity of it, which must considerably promote the Use for which Nature design'd them, *viz.* assisting them to perform their reptile Motions; for the Scales are indeed so many Feet, which being free and open below, do thereby take hold of the Ground, and so contract their Body forwards, and then shoot it out again. Hence it is, that on the Rocks they move quicker than on the Earth or Plains, because

Because there they have firmer Footing ; but in soft Ground, though their Belly be flat, they can alter its Figure so as to take the deeper Hold; as is observ'd in a Viper. In a Word, this Coat of Armour, which is for their Defence, is so curiously contriv'd, that, though it cover the whole Body, yet by its frequent Jointings it admits the Animal to make various Motions.

UPON examining the Lungs of the Rattlesnake, which consist only of one Lobe, the fore Part whereof is full of numerous Vesicles, and the latter an entire large Bladder, our Author takes Occasion to observe, that in Animals where Respiration is not so frequent, Nature provides a sufficient Store-house for the Air in such large Bladders, whence it is dispensed as the animal Oeconomy requires it ; for Tortoises, Vipers, Rattlesnakes, Toads, &c. which sleep a great Part of the Year, as previously to this Repose they take in their Store of Food, so perhaps of Air too ; for whilst they remain thus asleep, and sometimes dead to all Appearance, it may be question'd whether they have any Motion of those Parts which are requisite to draw in fresh Air in Inspiration. And this seems to be confirm'd by the Instance of a Viper, which remain'd alive some Days after the Skin and most of the *Viscera* were separated, and the Lungs were not observ'd all that Time to rise or fall, as in Inspiration and Expiration; but appear'd equally extended with Air ; only as soon

soon as it died the Lungs fell. The Stomach of this Viper was empty, and so was that of the Rattle-snake the Doctor dissected, which for four Months at least had eat nothing; so that, though they can live a long Time without Food, Air being necessary for their Subsistence, they are provided with the Receptacles above-mention'd.

ANOTHER Thing remarkable, which Dr. Tyson took notice of in the Dissection of the Rattle-snake, is, that the *Oesophagus* or Gullet, which in most other Animals serves only for transmitting the Food into the Stomach, seems in this to be intended by Nature for something more, and to be used on Occasion as a Stomach or Stomachs; for on blowing up the Part, two large Tumours were observ'd, nor was the true Stomach capable of such an Extension. The Doctor takes these Swellings in the Gullet to do the Office of the Crop in Birds, and of the Paunch in Quadrupeds, as being convenient Receptacles for the Food the Stomach cannot well receive at once, and that the more necessary as they feed but at one Time of the Year: And it is reported, that in case of Danger the Rattle-snakes shelter their Young in these Receptacles.

THE Head of this Snake is small, but the *Rictus*, or Mouth, is very large, its Tongue in all Respects like that of a Viper, and composed of two long round Bodies, join'd together from the Root two Thirds of its Length. They are
darted

darted out and retracted again with great Agility ; and the Part that is exerted is black, whereas that which lies in the Sheath is red. To facilitate its Exertion, the under Jaw is divided for a considerable Space ; for if it were conjoin'd, as in other Animals, and beset with Teeth, they would be apt to injure the Tongue, or at least it might prove incommodious to the Use it is design'd for, which is supposed to be the catching of Flies, and other small Animals it has a mind to devour. Over the Tongue lies the *Larynx*, not form'd with that Variety of Cartilages usual in other Creatures, but having a Sort of Slit for receiving and discharging the Air, which passing only through such a Slit, without other Organs to modulate it, causes the hissing Sound emitted by the Rattle-snake and other Serpents.

THE Teeth are of two Sorts ; *first*, the lesser, which are seated in each Jaw, and serve the Rattle-snakes for the catching and retaining their Food ; *secondly*, the poisonous Fangs which kill their Prey : And they are all *Canini* or Dog-teeth, for as they neither chew nor bruise their Food, but swallow it whole, they have no Occasion for *Molares* or Grinders. Of the first Sort of Teeth there are in the lower Jaw two Rows on each Side, and five in a Row, the inward lesser than the outward, and in all twenty : In the upper Jaw are only sixteen, five on each Side placed backwards, and six before ; and none of those are poisonous.

The

The fatal Fangs are plac'd without the upper Jaw, towards the fore Part of the Mouth, not fasten'd to the Jaw-bones, as the other Teeth, but to the Muscles or Tendons, except the two outermost and largest, which are fix'd to a Bone that may be taken for the Ear-bone. These Fangs are not to be perceiv'd on first opening the Mouth, for they lie flat under a strong Membrane or Sheath *, but are to be erected upon Occasion. They are hooked, and in all of them, especially the larger, there is a Hole towards the Root, and towards the Point a very plain Slit, from whence to the Root they are perfectly hollow, as the Doctor discover'd by gently pressing the Side of the Gum with his Finger; for then the Poison rose through the Hollow of the Teeth, and issued out at the Slit. This poisonous Liquor is of a Water-Colour, lightly tinged with yellow.

THUS much may suffice for the Description and Anatomy of the Rattle-snake; for to give the Remarks of Dr. *Tyson* on every Part of that Animal would be unnecessary and tedious to the Generality of our Readers. But it seems proper to add here a few miscellaneous Observations of Mr. *Dudley's*, who says there are

* Mr. *Ranby*, who dissected the poisonous Apparatus of a Rattle-snake, thinks the Use of this Membrane is to prevent the involuntary Discharge of the Poison out

of the Fangs. This Gentleman in some Particulars differs from Dr. *Tyson*, but in general his Observations agree very well with that ingenious Anatomist.

three Sorts of this Snake, distinguish'd by their Colour, *viz.* a yellowish Green, a deep Ash-Colour, and a black Sattin. Both Men and Beasts, he assures us, are more afraid of a Rattle-snake than of any other Serpent, and the Eye of this Reptile has something in it very singular and terrible. Whereas a common Snake avoids a Man, the Rattle-snake never turns out of the Way ; but as he creeps with his Head close to the Ground, and moves very slowly, a Person may easily get out of his Reach. His leaping and jumping to do Mischief is no more than extending or uncoiling himself ; for in leaping they do not remove their whole Body, as other Animals do ; so that a Man is in no Danger of them, if his Distance be more than their Length : Nor can they do any Harm when they are in their ordinary Motion, till they first coil and then extend themselves, which are both done in a Moment's Time. They are always coil'd when they rest or sleep, and they are observ'd to be exceeding sleepy.

THE same Author informs us, that these Snakes make the greatest Rattling in fair and clear Weather, and when it is rainy they make none at all ; so that the *Indians* do not care to travel in the Woods in Time of Rain, for fear of getting amongst them before they are aware. Another Circumstance of their Rattling has been observ'd, *viz.* that if a single Snake be surpris'd and rattles, and there be others near him,

him, they all take the Alarm, and rattle in like Manner.

THEIR common Food is Toads, Frogs, Ground-Mice, Crickets, Grasshoppers, and other Insects; and the Rattle-snakes themselves serve for Food to Bears, and even Hogs will eat them without Harm. They are viviparous *, and generally bring forth about twelve; for a Friend of Mr. *Dudley's* inform'd him, that at the Time when the Rattle-snakes first come abroad, he took and open'd one of them, and found in the *Matrix* twelve small Globes, as big as a common Marble, in Colour like the Yolk of an Egg. In three or four Days more he took and open'd another, and then plainly perceiv'd a white Speck in the Center of the yellow Globe. Some Days afterwards he dissected a third, and discover'd the Head of a Snake; and opening a fourth a few Days after that, he found three Parts of a Snake form'd, and lying round in a Coil. But what puts the Matter out of Doubt, about a Month afterwards he kill'd a Snake, and took out young ones about six Inches long.— They cast their Skins every Year, and generally den among the Rocks in great Numbers together. They re-

* This is a Confirmation of the Rattle-snake's being of the Viper-Kind, for it is observed, that Vipers bring forth their Young alive, whereas common Snakes lay their Eggs in Dunghills, or other Places proper to hatch them by their Warmth, and therefore are reckoned amongst the oviparous Animals.

tire on the Approach of Winter, and come abroad the Beginning of next Summer ; at which Time the Hunters watch them, and, as they come out to sun themselves, kill them by Hundreds.

LET us now consider the surprizing Effects of the Rattle-snake's Poison, which is unquestionably one of the most subtil and dangerous in the whole Animal Kingdom. Of this we have some extraordinary Instances given us by Capt. *Hall*, who being in *South-Carolina* procured a fine healthful Rattle-snake, about four Feet long, and with one Mr. *Kidwell*, a Surgeon, and three or four other Gentlemen, made several Experiments to try the Effects of its Poison. They got three Cur-Dogs, the largest not bigger than a common Harrier ; and the Snake being tied and pinn'd down to a Grass-plat, they took the largest of the Dogs, and having tied a Cord round his Neck so as not to strangle him, the Captain held one End, and another Person the other. Immediately on bringing the Dog over the Snake, he raised himself near two Feet, and bit the Dog as he was jumping. The Dog yelp'd, by which the Captain perceiv'd he was bitten, and pulling the Dog to him as fast as he could, he found his Eyes fix'd, his Tongue between his Teeth, which were close, his Lips drawn up so as to leave his Teeth and Gums bare ; and, in short, he was quite dead in a Quarter of a Minute. They could not see where the Bite was, nor observe
any

any Blood ; upon which ordering some hot Water to scald the Hair off, they discover'd only one Puncture, with a blueish-green Colour appearing a little round it. This was just between his fore Legs and his Breast, where the Hair was thinner than in some other Places.

HALF an Hour after this they took a second Dog, which was somewhat smaller, and brought him in like manner over the Snake, which bit his Ear, so that all the Company saw it. The Dog yelp'd much, shew'd Signs of being very sick, reel'd and stagger'd about for some Time, then fell down and struggled as if convulsed, and for two or three times got up, each Time wagging his Tail, though slowly, and endeavouring to follow a Negro-Boy, who used to make much of him. They put him into a Closet, and ordered the Boy to look after him, who brought Word in two Hours that the Dog was dead.

ABOUT an Hour after the second Dog was bitten, they took the third in like manner, which the Snake bit on the right Side of the Belly, so that he drew Blood. The Dog for about a Minute did not seem to be hurt, so they let him go, and saw no more of him ; but the next Day a Woman, who own'd him, came to the Captain, complaining of his Cruelty for killing her Dog.

FOUR Days afterwards they got two Dogs, as big as common Bull-dogs ; and the first, which the Snake bit on the Inside of his left Thigh,

died exactly in half a Minute, according to the Watches of two Gentlemen present. There were two very small Punctures in his Thigh, which look'd livid, though no Blood was drawn. —The second Dog was Bit about an Hour after the first, on the Outside of his Thigh, where they perceiv'd Blood at two Places; he soon sicken'd, and died in four Minutes. — As they thought the Snake's Poison was not spent, they got a Cat, which he bit an Hour after. She was very sick, and they put her in a Closet; but by some means or other she got out, and the next Morning was found dead in a Garden.

A Month after these Experiments were made, the Captain procured a common black Snake, not of the Viper-Kind, about two Feet and a half long, and just taken; and putting this and the Rattle-snake together, he irritated them so that they bit each other. He perceived that the black Snake had drawn Blood of the Rattle-snake, before he took them asunder; the black Snake died in less than eight Minutes, but the Rattle-snake did not seem sick, or at all the worse for his Wound.

THE last Experiment the Captain made with this Snake was to try whether his Poison would not prove mortal to himself. In order to this he hanged him in such a manner that he was not above half his Length on the Ground, and then so irritated him by pricking and scratching him with two Needles fasten'd to the End of a Stick, that

that he soon bit himself, after having several times attempted to bite the Stick. He then let him down, and he was quite dead in eight or ten Minutes. The Snake was then cut into five Pieces, and given to a Hog, the Head-Part first, in the Sight of several People. The Hog eat up all the Snake, and ten or twelve Days afterwards the Captain saw the Hog alive and healthful; which confirms the Account of Mr. *Dudley* above mention'd.

WE might give many other Instances of the strange Effects of this subtil Poison, but these are abundantly sufficient. As to the Cure of the Bite of the Rattle-Snake, it is natural to think, that if Death follows it in so short a Time, no Remedy can reasonably be expected: But why might not Olive-Oil, if immediately applied to the Wound, be as certain a Cure in this Case, as it has been found to be for the Bite of the Viper*, especially as the Rattle-Snake is of that Kind, and probably their Poisons much of the same Nature? However, be this as it may, it is wisely order'd by Providence, that the Countries infested by these noxious Animals produce effectual Antidotes against their Poisons. Mr *Dudley* says there are several Remedies for the Bite of a Rattle-Snake, but that which is most made use of is a Root call'd *Blood-Root*, on account (as he sup-

* See remarkable Instances of this Kind in *Vol. III.*
p. 324, &c.

posés) of its Colour, as well as that of its Juice, which is red like Blood. It grows in great Abundance in the Woods, and the Method of using it is to bruise it and bind it over the Part that is bit, to prevent the Poison spreading farther, at the same time scarifying the Place affected. Some of the Root is likewise boil'd, and the Patient drinks the Water.

BUT here it will naturally be observ'd, that all this requires Time, and a Person bit by a Rattle-Snake in the Woods may be dead before the Remedy can possibly be applied. It is true, the Bite of the Rattle-Snake is for the most part attended by sudden Death, that is, Death often ensues in fifteen Minutes, and sometimes sooner, but at other times the Patient lives several Days: And there are various Reasons to be assign'd, why the Poison has not always the same speedy Effect, such as the Season of the Year, the Part bit, and the Constitution of the Patient. However, if our Accounts are true, the *Americans* are not without a Specific even against the most sudden Efforts of this dangerous Poison, viz. the *Serpentaria*, or *Snake Root*, of which there are various Kinds, as that of *Virginia*, that of *Brasil*, that of *Canada*, &c. Those who travel or hunt in the Woods carry this Root constantly about them, to chew and swallow as soon as they are bit by a Rattle-Snake, the Stagnation of the Blood being prevented by its peculiar Activity. Nay, we are told, this Root not only cures the Bite
of

of the Rattle-Snake, but that the Animal flies at the Smell thereof; for which Reason Travellers carry it with them on the End of a Staff, to present towards the Snake if he chance to come in their Way.

THE Account we have of the Discovery of the Virtue of this Root in curing the Bite of the Rattle-Snake is this. A Nation of the Northern *Indians*, call'd *Senekkas*, observing that the Root and Flowers resembled the Rattle of the Snake, concluded that Providence had impress'd that Characteristic to point out its Use. These *Indians* returning from a War with a Southern Nation, call'd *Catawbaes*, in the Year 1712, communicated the Efficacy of this Root to a Planter on the Frontiers of *Virginia*, who imparted it to his Neighbours, and so it was soon known through those Parts of *America*. And hence a particular Species is named *Senekka* Rattle-Snake Root, to distinguish it from other Species which are much inferior in Virtue.

AFTER all, so speedy are the terrible Effects of this Snake's Poison in many Instances*, that

* To the Instances already given of the Strength and Virulence of this Poison on Animals, let us add another of the same on a vegetable Body, which is mention'd by Col. *Beverly*, who says he was inform'd by Col.

Taylor, that being in Company with others in the Woods they found a Rattle-Snake, and cut off his Head. Then with a green Stick which he had in his Hand, about eighteen Inches long, the Bark of which was new-

it

it is the Opinion of Capt. *Hall*, a judicious and observant Person who lived several Years in *Virginia*, that the safest and surest Way of Cure is to cut out immediately the Part where the Wound is made; for he has seen several, who, following that Method upon being bit, have carried hollow Scars about them, as Marks of the narrow Escape they had had, and they never felt any Inconvenience afterwards.

BUT though we have said so much of the Rattle-Snake, we have not yet done with that Animal; for besides the surprising Effects of its Poison, there are others attributed to its Eyes almost equally astonishing, which ought not to be passed over in Silence. The Effects that we mean are said to be produc'd by a certain fascinating or bewitching Power in the Eyes of the Rattle-snake, which, by keeping them fix'd on any small Animal, as a Squirrel, a Bird, or the like, though sitting on the Branch of a Tree, at a considerable Height, can draw such Animal down into its Mouth. This perhaps may seem utterly incredible to People who have never heard or consider'd any Accounts of this Nature; but it is commonly asserted that all Sorts

ly peel'd off, he urged and provoked the Head, till it bit the Stick with Fury several times; whereupon the Colonel observing small green Streaks rise up along

the Stick towards his Hand, he threw it on the Ground, and in a Quarter of an Hour it split into several Pieces, and fell asunder from End to End.

of Snakes have some Degree of this Faculty of charming or fascinating other Animals by looking stedfastly upon them. Mr. *Dudley* says, he will not pretend to answer for every Story he has heard concerning this Power of Fascination, but he is abundantly satisfy'd from several Witnesses, both *English* and *Indian*, that a Rattle-snake can charm Birds and Squirrels from a Tree into his Mouth. Our Author was told by one of undoubted Veracity, that as he was in the Woods he observ'd a Squirrel in great Distress, skipping from one Bough to another; and making a lamentable Noise, till at last he came down the Tree, and ran behind a Log. The Person going to see what was become of the Squirrel, spied a large Snake that had swallow'd him. And Mr. *Dudley* is the rather confirm'd in this Relation, because his own Brother being in the Woods, open'd a Rattle-snake, and found two Squirrels in his Belly, both of them Head foremost. He adds, that when they charm, they make a hoarse Noise with their Mouths, and a soft Rattle with their Tails, having their Eyes at the same Time earnestly fix'd on their Prey.

Col. *Beverly* tells us, that as he was hunting in the Woods, and had stray'd from his Companions, he was entertain'd at his Return with an Account of a pleasant Rencountre between a Dog and a Rattle-snake about a Squirrel. The Snake had got the Head and Shoulders of the Squirrel into his Mouth, which being something
too

too large for his Throat, it took him up some Time to moisten the Furr of the Squirrel with his Spawl, to make it slip down. The Dog took this Advantage, seized the hinder Parts of the Squirrel, and tugg'd with all his Might. The Snake on the other Side would not let go his Hold for a long Time, but at last gave up his Prey, and the Dog eat the Squirrel without any Injury.

THE same Gentleman assures us, that several Persons have seen Squirrels run down a Tree directly into a Snake's Mouth; and have also seen Birds fluttering up and down, and chattering at these Snakes, till at last they dropp'd down before them. But, besides the Relations of others, he gives a very remarkable Instance of this Fascination, whereof he himself was an Eye-witness, with two other Persons in Company. Having stopp'd at an Orchard by the Side of the Road, they were entertain'd (he tells us) with the whole Process of a Charm between a Rattle-Snake and a Hare, the Hare being better than half-grown. It happen'd thus: One of the Company, searching for the best Cherries, spied the Hare sitting, and tho' he went close by her she did not move, till he (not suspecting the Occasion of her Tameness) gave her a Lash with his Whip; upon which she ran three or four Yards, and there sat down again. The Gentleman, not finding the Fruit ripe, immediately return'd the same Way; and near the Place where he struck the
Hare

Hare he spied a Rattle-Snake. Still not suspecting the Charm, he went back about twenty Yards to a Hedge, to get a Stick to kill the Snake; and at his Return he found the Snake remov'd and coil'd in the same Place from whence he had moved the Hare. This put him into the Thought of looking for the Hare again, and he soon spied her about ten Feet distant from the Snake, in the Place to which she had started when he whipp'd her. She was now lying down, but would sometimes raise herself on her fore Feet, struggling as it were for Life, to get away, but could never raise her hinder Parts from the Ground; and then she would fall flat on her Side again, panting vehemently. The Hare and Snake were in this Condition when our Author was call'd, who says, that though all three went within five Yards of the Snake to have a full View of the whole, the Snake did not take the least Notice of them, nor so much as give a Glance towards them. There they stood at least half an Hour, the Snake not altering one Jot; but the Hare often struggled to get up and fell on its Side again, till at last she lay still for some time as dead. Then the Snake mov'd out of his Coil, and slid gently and smoothly towards the Hare, his Colours at that Instant being ten times more glorious and shining than at other Times. As the Snake moved along, the Hare happen'd to make another Struggle, upon which the Snake made a Stop, lying at his Length till the Hare

was quiet, and then he advanced till he came up to the Hare's hinder Parts, which in all this Process had been towards the Snake. There he survey'd the Hare all over, raising Part of his Body above it; then he turn'd off and went to the Nose, and after that to the Ears, which he took into his Mouth one after the other, working them as a Man does a Wafer to moisten it. He then return'd to the Nose, and took the Face into his Mouth, straining and gathering his Lips, sometimes on one Side, sometimes on the other. At the Shoulders he was a long time puzzled, often pulling and stretching the Hare out at length, till at last he got the whole Body into his Throat. The Spectators then advanced, and our Author taking the Twist-band off his Hat, made a Noose, and put it about the Neck of the Snake. This at last made him very furious; but having secured him, they put him into one End of a Wallet, and carried him on horseback five Miles to the House where they lodged that Night; and next Morning they kill'd him, and took the Hare out of his Belly. The Head of the Hare began to be digested, and the Hair to fall off, having lain in the Snake's Belly about eighteen Hours.

HERE seems to be a plain Instance of the fascinating or enchanting Power in the Rattle-Snake; but Sir *Hans Sloane* thinks the whole Mystery of the Affair is chiefly this, that when such Animals as are the proper Prey of these Snakes,

Snakes, as small Quadrupeds, Birds, &c. are surprized by them, they give them a Bite, and the Poison allows them time to run a small Way, or perhaps a Bird to fly up into the next Tree, where the Snakes watch them with great Earnestness till they fall down, or are perfectly dead, when having lick'd them over with their Spawl or Spittle, they swallow them down.

Now we grant that Sir *Hans's* Conjecture is natural enough, and perhaps the Hare above-mention'd might have been surprized and bit by the Rattle-Snake, before it was affected in such a Manner: But still there are many Instances of what we call Fascination, not only in the Rattle-Snake but in other Animals, where no previous Bite or other Injury has been received by the Animal enchanted. Dr. *Sprengell's* Account seems to be such an Instance, who tells us, that at *Milan* he met with a Viper-Catcher who generally kept a considerable Number of these Animals alive in a back Room open at top; and having one Day got a female Viper big with Young, a Mouse was thrown in amongst them; but of the whole Number of Vipers, which were upwards of sixty, not one concern'd himself in the least about the Mouse, till the pregnant female Viper and the Mouse interchanged Eyes, as the Doctor expresses it. Upon this the Mouse startled; but the Viper raised her Head, and turn'd her Neck into a perfect Bow, her Mouth open, her Tongue playing, her Eyes all on fire, and her Tail erect.

The Mouse seem'd soon recover'd of its Fright, and would take a Turn or two, sometimes more, pretty briskly round the Viper, giving now and then a Squeak, till at last it ran swiftly into the Chops of the Viper, and gradually sunk down the Gullet. All this while (adds the Doctor) the Viper never stirr'd out of her Place.

If this be not sufficient to prove the fascinating Power of some Animals, take another Instance from a late Author, who assures us he has seen a Mouse running round a large Toad, which stood looking earnestly at it, with its Mouth open. Still the Mouse made less and less Circles about the Toad, crying all the while, as if compell'd thereto; and at last, with a great deal of seeming Reluctance, ran into the gaping Mouth, and was swallow'd.

SOMETHING of this Kind almost every one may have observ'd in the Setting-Dog, the Effects of whose Eye on the Partridge are very remarkable. The poor Bird, when once its Eyes meet those of the Dog, stands as if confounded, regardless of itself, and easily lets the Net be drawn over it. And we have read of Squirrels so stupified and overcome by a Dog's staring hard at them, that they have dropp'd from the Tree into his Mouth.—Add to this, that Man is not secure from the like Affections, as almost every one knows from Experience; for there are few People but have one Time or other felt the Effects of an angry, a fierce, a commanding, a disdainful, a lascivious, an in-
treating

treating Eye, &c. And it is chiefly owing to this Sort of Fascination, (if we may be allow'd a little Pleasantry) that the beautiful Women of *Lancashire* have obtain'd the Name of *Witches*.

BUT since we have in some measure taken upon us to plead for the Opinion of the fascinating Power of the Eye, let us see how far it can be supported by Philosophy, in which we apprehend it has some Foundation. All living Things, we know, emit *Effluvia*, both by the Breath and Pores of the Skin, and therefore all Bodies within the Sphere of those Effluvia will be affected by them, in this or that Manner according to the Quality of the Effluvia, and in this or that Degree according to the Disposition of the emittent and recipient Parts. Thus far is incontestable; nor need we produce Instances of Animals exhaling sweet or stinking Smells, or of infectious Diseases conveyed by Effluvia, in Confirmation of what we have asserted. If then what we have advanced be granted, we know that of all Parts of an Animal Body the Eye is the quickest, moving with the greatest Celerity, and in all the Variety of Directions; and from the Rays of Light it so copiously receives, we may safely conclude that its Coats and Humours are as permeable as any other Part of the Body. The Eye, therefore, undoubtedly emits its Effluvia like the other Parts, and the fine Humours must be continually exhaling. The Heat of the pervading

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Rays

Rays will rarefy and attenuate them, and that, with the subtile Juice or Spirit of the neighbouring Optic Nerve, supplied in great Abundance by the Vicinity of the Brain, must make a Fund of volatile Matter, to be dispensed, and as it were determined by the Eye.

HERE then (observes an ingenious Author) we have both the Dart and the Hand to fling it; the one furnish'd with all the Force and Vehemence, and the other with all the Sharpness and Activity one could require. Conceive therefore the Eye as a Sling, capable of the intensest Motions and Vibrations, and communicating with a Source of such Matter as the nervous Juice elaborated in the Brain, a Matter so extremely subtil and penetrating, that it is supposed to fly instantaneously through the solid Capillaments of the Nerves, and so active and forcible that it distends and convulses the Muscles, distorts the Limbs, and alters the whole Habit of Body, giving Motion to a Mass of inactive Matter. A Projectile of such a Nature, flung by an Engine like the Eye, must have an Effect wherever it strikes; and the Effect will be limited and modified by the Circumstances of Distance, the *Impetus* of the Eye, the Quality, Subtily, Acrimony, &c. of the Juices, and the Delicacy, Coarseness, &c. of the Object to which it is directed.

THIS Theory, we imagine, may account for some of the Phænomena of Witchcraft, particularly of that Branch we are speaking of, call'd
Fascination.

Fascination. It is certain the Eye has always been esteem'd the chief Seat, or rather the Organ of Witchcraft, though without considering the Reason; the Effect was apparently owing to the Eye, but in what manner it was done, was not consider'd or dream'd of. Thus the Phrase, to have an *evil Eye*, implies something of Witchcraft*: And we may observe, that old bilious Persons are most frequently supposed to have this Faculty, the nervous Parts in them being depraved, and irritated by a vicious Habitude of Body, and so render'd more penetrating and malignant. It is likewise to be remark'd, that Children and young People are mostly affected by it, their Pores being more open, their Juices incoherent, and their Fibres delicate and susceptible of Impressions. Lastly, the Faculty is only exercised when the Person is displeased, provoked, &c. it requiring some extraordinary Stress and Emotion of Mind to dart a proper Quantity of the Effluvia, with a sufficient Force to produce the Effect at a distance.

BUILDINGS.

THE Reader will not expect any thing very extraordinary under this Head, in a Part of the World whose Inhabitants have been ge-

* Hence that Verse of *culus mihi fascinat agnos.*
Virgil: Nescio quis teneros o-

nerally supposed impolite and barbarous: But as the *Inca's* or *Inga's* of *Peru* are famous in History, it may not be amiss to give a short Account of some of the noble Structures which the *Spaniards* found when they first invaded that Country. At that Time *Cusco* was the Capital of the Kingdom, and there was a Castle built in such a surprizing Manner that many People, who saw it, imagined it could not have been raised without the Assistance of Enchantment. This Fortrefs stood on the Top of a Hill, and on the Edge of a Precipice, which towards the Town was perfectly perpendicular. Towards the Country it was defended by triple semicircular Walls, of such Height and Thickness, that they were Proof against all the Force that could be brought against them. Some of the Stones were of such a prodigious Size, that it was inconceivable how they were hewn out of the Quarry, or brought to the Place, the Natives having no Iron Tools, no Beasts to draw them, nor Engines to raise them to such a Height. They were dragg'd, however, by the Strength of Men, ten, twelve, or fifteen Leagues, over Hills and Valleys, and along the most difficult Roads; and there is one Stone in particular, to which the *Indians* give the Name of *Syacusa*, that is, *the Weary*, because it never arrived at the Place for which it was design'd. This Rock was drawn fifteen Leagues by twenty thousand *Indians*, over very rugged and uneven Ways; but notwithstanding all their Care and

and Strength, it got the better of them, and tumbling down a steep Hill kill'd several hundred Men, who were endeavouring to poise the Weight. They raised it however once again, and with incredible Pains dragg'd it to the Plain in the Neighbourhood of *Cusco*, where they were obliged to leave it, never being able to get it up the Hill on which the Castle was situated.

BETWEEN each Wall of the Castle there was a Space of twenty-five or thirty Feet, which was fill'd up with Earth, and every Wall had a Breast-Work on the Top of it. Beyond these Walls were three large Towers, standing in a Triangle, answerable to the Bending of the Walls. The principal of these Towers had a Fountain of excellent Water, brought to it by a subterraneous Aqueduct, the Source whereof was only known to the *Inca* and his Council, lest an Enemy should discover the Stream, and cut it off in case of a Siege. This Tower was round, and in it the *Inca* had an Apartment, nobly furnish'd like the rest of his Palaces. The other two were square, and contained Rooms for the Garrison, who were all of the Royal Blood. Underneath these Towers were Apartments as large as those above; and they had a Communication with each other by a subterraneous Labyrinth, through which it was difficult for a Stranger to find his Way without a Guide. It is said that great Part of the new
City

City of *Cusco* was built with the Stones found in the Ruins of this Fortrefs.

THE Palaces of the *Inca's* in *Cusco*, besides the Castle just mention'd, were very spacious and magnificent, some of the Halls being two hundred Paces in Length, and fifty or sixty in Breadth; insomuch that the *Spaniards* converted one of them into a Cathedral Church. The Stones of these Buildings were so well join'd together that they needed no Cement; but sometimes, for the sake of Ornament they closed up the Seams of their Structures with melted Gold and Silver, which occasion'd the total Destruction of most of them, the *Spaniards* subverting the very Foundations in hopes of finding Treasure. The Furniture and Decorations of these Palaces were the Figures of Men, Beasts, Birds, and other Animals, cast in Gold; and on the Walls, instead of Tapestry, were Plants and Flowers of the same Metal, intermix'd with Serpents, Butterflies, and other Reptiles and Insects. It is said they had no Chairs in their Palaces, but the *Inca* himself sat on a Stool made of Gold, without Arms or Back, having a Pedestal of the same Metal: They had also Cisterns of Gold in their Bagnios, and the Utensils of their Kitchens, and in the meanest Offices, were likewise of Gold; but they neither purchased Houses nor Lands with this Metal, as we do, but used it as an Ornament when living, and buried it with them when they died. The Royal Gardens were not only planted with
great

great Variety of Trees, Flowers, &c. but the Figures of those and all Sorts of Animals were made of Gold, and placed in the Walks to adorn them.

HOWEVER, notwithstanding the Magnificence of the Palaces in *Cusco*, nothing was comparable to the Temple of the Sun, which was enrich'd with the greatest Treasures that ever the World beheld. It was built of Free-stone, and lined with Gold, the Cieling being also of the same Metal, though the Roof itself was no better than common Thatch. It was divided into several Chapels, Cloysters, or Apartments; in the principal whereof, towards the East, was placed the Image of the Sun, consisting of one Gold-Plate that cover'd the whole Breadth of the Chapel, and twice as thick as the Plates that cover'd the other Walls. This Image was of a round Form, representing the Sun with his Rays darting from him, much in the same Manner as he is drawn by *European* Painters; and on each Side of it were placed the Bodies of the deceased *Inca's*, so embalmed that they seem'd to be alive. These were placed on Thrones of Gold, but on the Arrival of the *Spaniards* they were conceal'd by the *Indians*, with most of the Treasures of the Temple.

THIS Temple had several Gates cover'd with Gold; and round the Top of it, on the Outside, was a Cornice a Yard deep, consisting of Gold-Plate. Besides the Chapel of the Sun
there

there were five others of a pyramidical Form, the first of which was dedicated to the Moon, deem'd the Sister and Wife of the Sun; and the Doors and Walls of this Structure were cover'd with Silver. Here was the Image of the Moon, of a round Form, with a Woman's Face in the Middle of it; and on each Side of the Image were placed the Bodies of the deceased Empreſſes ranged in Order. Next to this Chapel was that of *Venus*, by the *Peruvians* call'd *Chafea*, who was much esteem'd as an Attendant on the Sun, as the rest of the Stars were deem'd Maids of Honour to the Moon; and this Chapel was likewise plated with Silver. The third Chapel was dedicated to Thunder and Lightning, which they look'd upon as Servants of the Sun; and this was ciel'd and wainscotted with Plates of Gold. The fourth was dedicated to the Rainbow, as owing its Original to the Sun; and this was also cover'd with Gold, and had on one Side of it a Representation of the Rainbow. The fifth Chapel was an Apartment for the Use of the High-Priest, and others who officiated in the Temple, who were all of the Royal Blood; and this, like the Chapel of the Sun, was adorn'd with Gold.

THERE was no other Image worshipp'd in the Temple but that of the Sun, but they had the Figures of Men, Women, and Children, and of various Birds, Beasts, and other Animals, of wrought Gold, placed in it for Ornament;



ment; and all the Vessels and Utenfils were of the same precious Metal. We likewise read of a Sort of Nunnery, wherein were kept a thousand or fifteen hundred Virgins, all of the Blood of the Emperors, who were intended only for the Service of the Temple. Nor was it only in the City of *Cusco* that such a Temple was erected, but almost every large Town in the Country had one adorn'd in the like sumptuous Manner.

THUS much we thought proper to say, in order to give the Reader some Idea of the Grandeur of the *Peruvian* Monarchy, before it was subdued and brought under the *Spanish* Yoke; we now proceed to the Northern Part of *America*.

C H A P. II.

Of NORTH AMERICA.

UNDER this Division of the *American* Continent are comprehended *New Spain*, *New Mexico*, *Canada* or *New France*, *Florida*, and the *English Empire*. But there is no Part of it more celebrated in History than *New Spain*, or *Old Mexico*, which was a great and flourishing Monarchy for several Ages, govern'd by its own Kings, (chosen out of their

chief Captains, without Regard to hereditary Succession) till 1521, when it was entirely conquer'd by the *Spaniards* under *Ferdinando Cortez*; since which it has remain'd subject to the Crown of *Spain*, and is govern'd by a Viceroy, whose stated Residence is at the City of *Mexico*.—As to *New Mexico*, it is so call'd because discover'd since the *Old*, and is sometimes stiled by the *Spaniards* a Kingdom, and sometimes a Province. The greatest Part, however, of this vast Country is still in the Hands of the Natives, who are a peaceable and generous People, but yet were not only more numerous, but better provided for their Defence than any other *Americans* the *Spaniards* had to deal with; who, at their first Arrival in that Country, which was about the Year 1539, found them well cloath'd, their Lands cultivated, and large Stocks of Cattle, tolerable Huts in their Villages, and good Stone-Houses in their Towns. They were govern'd by petty Princes or *Caciques*, whom they chose for their Wisdom and Valour; and though they worshipp'd the Sun and Moon, they seem'd more willing to embrace the Christian Religion than any other of the *American* Nations; but they did not seem at all willing to part with their Liberty, which, in a great measure, they still preserve. Of the various Nations in this Country, mention'd by the *Spaniards*, the principal are the *Apaches*; who thinking themselves oppress'd by the *Spanish* Government, made an Insurrection towards the Close
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of the last Century, and did a great deal of Mischief, but were at length suppress'd, and have since been kept in Awe by stronger Garrisons. In the late Reign of *Philip V.* the *Spaniards* likewise took care to people these Northern Provinces, by transmitting Orders to the Viceroy of *Mexico*, to send a Number of poor Families thither, a Precaution in which they are certainly right, if it be only to guard against Foreigners, it being very possible, according to *Dampier*, to make a Descent opposite to the Isle of *California*, and penetrate to their richest Mines. But if annual Draughts of People were sent from *Europe* into *New Mexico*, and there settled in convenient Farms, it is likely they would soon grow populous, especially as Mankind increases more in cold than in hot Climates.

THE *Sansons* mention a Province in this Country call'd *Quivira*, which they place on the Frontiers of *Florida*, and say it has but few Inhabitants, and those very barbarous. The Men are clad in the Skins of Cows, the Women go naked, have very long Hair, and eat raw Flesh; and they change their Abodes as they are invited by the Seasons and Pastures. Their Houses are likewise cover'd with the Skins of their Black Cattle, they make Bowstrings with their Hair, Awls and Trumpets with their Bones, Cups with their Horns, and Fire with their Dung, there being but little Wood in the Country.

Gemelli, the Popish Missionary, tells us, that in 1698, when he was at *Old Mexico*, he discoursed with the Governor of *New Mexico*, who told him, that though good Part of this Country had been lately conquer'd, there remain'd still much more unsubdued; that the Natives paint their Bodies; that they are such dextrous Archers, that they can hit a Piece of Money thrown up into the Air; that they are great Lovers of the Flesh of Mules, which they often take from Travellers, without robbing them of the Goods they carry; that the King of *Spain* maintains six hundred Horse, besides Foot, in several Garrisons, to keep them in Awe, but being at a vast Distance from *Old Mexico*, the Natives often revolt, because they know the *Spaniards* cannot be speedily reinforced. *Gemelli* adds, that the Soldiers are arm'd with Muskets, Bucklers, and Half-Pikes, and hunt the Natives like Wild Beasts, being order'd by the Government not to kill, but to take them, in order to instruct and civilize them. The Country, he observes, is plain and passable for Carriages some Months in the Year; but they have such wide Desarts to pass, that the Soldiers and Travellers, who sometimes do not see a Cottage for several Days, encamp every Night, and are forced to keep Guard for fear of being attack'd by the Savages. Travellers carry along with them Matrasses and Pillions, or rather Bladders of Leather, which at Night they blow full of Wind to lay their
Heads

Heads on, and let it out in the Morning, when they pack them up to proceed on their Journey.

California is a Country the most northern of any discover'd and possessed by the *Spaniards*; the more Southern Part of it was known to that Nation soon after the Discovery of *Mexico*, but it is only of late that they have penetrated into it, contenting themselves before with the Pearl-Fishery on its Coasts. It was Matter of Doubt for a long Time whether it was an Island or join'd to the Continent; but in the latest Maps it is laid down as a Peninsula, which it really is, though it was not known to be such till it was discover'd by Father *Caino*, or *Kino*, a *German* Jesuit, who landed in *California* from the Island of *Sumatra*, and pass'd into *New Mexico*, without crossing any other Water than *Rio Azul*, or the *Blue River*, in about thirty-five Degrees North Latitude. On the North it is bounded by a Continent unknown, on the East by the Province of *New Mexico* and the Gulf of *California*, (which some call the *Purple*, others the *Vermilian Sea*) and by the *South Sea* on the South and West.

FATHER *Caino* informs us, that the Natives are tolerably well shaped, and very ingenious, that they live without Houses, or any Shelter but Trees in the Summer, and Caves in the Winter. They were observed to kneel and pray on the first Appearance of the New Moon, but this Father and other Missionaries soon in-

clined many of them to embrace Christianity. They know no Government but the absolute State of Nature, every Man being a Sovereign in his own Family ; so that there are continual Feuds amongst them, which sometimes break out into Broils and Bloodshed. The Men go for the most part naked, except a Fillet of fine Cloth about their Temples, and some beautiful Bracelets of Pearl. The Women, besides their Head-Dress, generally wear a Mantle of Skins over their Shoulders, a Piece of Cloth girt round their Bodies, and Chains of Pearl about their Necks and Arms. Those who live on the East Side of *California* are Enemies to the *Spaniards*, but in other Parts of the Peninsula they seem hospitable to all Strangers.

CAPTAIN *Rogers*, who lay a considerable Time at Cape *St. Lucar*, says, that that Part was mountainous, barren, and sandy, and had nothing but a few Shrubs and Bushes, bearing several Sorts of Berries. Here the Natives had large Limbs, were strait, tall, and of a blacker Complexion than any he had seen in the *South Seas*. The Women look'd very coarse and wrinkled. Their chief Food was Fish, which they struck very dexterously with wooden Instruments ; and they were excellent Divers. Their Bread was made of a black Seed ground, which tasted like Coffee. They did not value Glass Beads, and such-like Toys, as the *Indians* usually do ; but they were very desirous of Knives and other sharp Weapons, all their cutting

ting Instruments being made of the Teeth of Sharks and other Fishes. They had long Bows, with Strings made of a Sort of Grass, Arrows of Cane four Feet and a half long, pointed with Fish Bones; and they shot Birds flying. The *Spaniards* have lately made a Settlement near the Cape above-mention'd, which is only a Village, and call'd *California*.

THE *Spaniards* pretend to have been the first Discoverers of that large Part of *North America* call'd *Canada* or *New France*; but this is denied by the *French*, who are now possess'd of most of it, and are still enlarging their Dominions. *John Verrazzano*, a *Florentine* put on Shore there for Provisions, and gave it the Name of *New France* in Compliment to King *Francis*, who had sent him to discover a Northern Passage into the *South Sea*. This *Florentine* Captain, however, having been butcher'd by the wild Natives, the *French* sent thither *James Cartier* from *St. Malo's*, who sail'd up as far as *Quebec*, but brought home a dismal Account of the Country, seeing nothing but high craggy Mountains cover'd with Snow, and a few barren Plains inhabited by naked Savages. Notwithstanding this, it was not long before some other Ships were sent thither again, who sail'd up higher, and made better Discoveries of the great River of *Canada*, or *St. Laurence*, as the *French* call it; and towards the Beginning of the last Century a new Colony was sent thither from *Rouen*, who settled there, though not without

out some Difficulty and Danger; but having fortified themselves on each Side the River, and received fresh Colonies from *France*, they gradually enlarged their Territories to their present Extent: Since which Time, however, the *English* have found Means to come in for a considerable Share of it, especially towards *Accadia* and the River of *St. Laurence*, which was yielded to them by the Treaty of *Utrecht*.

THE Natives of *Canada*, at the first Arrival of the *French* in that Country, were rude, ignorant, and barbarous, and the greatest Part of them still continue so, there being few of them that shew any Inclination for a Life more polite and civilized. Their Government, Laws, and Customs are of the same Nature, they being all divided into small Tribes under their several Heads, some living in Villages and poor wooden Huts, and others leading a rambling Life; but there is a Difference in their Dispositions, some being more affable and humane, others quite cruel and brutish, and extremely tenacious of their barbarous Customs. One of these Custom, according to Father *Charlevoix*, is, that as soon as their Females have attain'd to the Age of fourteen or fifteen Years, they are allow'd to prostitute themselves to whoever they please for the Space of three or four Years; after which they begin to think of fixing their Affections on a Husband, to whom, when married, they prove extremely constant and loving, and, if he dies, mourn for him all the rest of their

their Lives, without ever marrying another. This, says our Author, join'd to their Licentiousness before Marriage, and their suckling their Children so long as two, three, or even six or seven Years, are the main Causes of their Infecundity; for in other Respects both Men and Women are robust and strong, and inured to the hardest Toils and Fatigues. Their Eyes, he adds, are so strong, that though they are continually dazzled with their Snows, or darken'd with the nasty Smoke of their Huts at least six Months in the Year, they are not affected with either. Their Hearing is no less quick, and our Author says they can smell Fire at a vast Distance, but what he means we do not rightly understand. Their Fancy is so lively, and their Memory so strong, that if they have once travelled through the largest Woods or Deserts, or sail'd over any of their Seas, which they do without the Help of a Compass, they can retain all the necessary Observations, so as to repeat the same Course at any Distance of Time. As to their Possessions, they are in some measure in common, for whatever one wants, the others are all ready to supply. If one has met with ill Success in his Hunting, the rest will assist him with some of their own Provisions; and in general they despise Money to such a Degree, that they will not touch it, calling it the *Serpent of the French*, for the Love of which they betray, rob, and kill one another.—The Misfortune is, that Travellers often
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contradict themselves in the Character they give of these People, some describing them as one Remove from Wild Beasts, and quite incapable of being civilized, whilst others represent them as gentle and hospitable, sprightly, docile, and of a sound Judgment. But upon the whole we need not be at a Loss to account for this Difference of Characters in so vast a Tract of Ground and such Variety of Climates, where Literature, Commerce, Religion, and Laws are almost Strangers.

WHAT Religion they have consists in some faint Notion of a Supreme Being, to whom however they do not perform any outward Worship, unless those Dances and Songs, which they use at some particular Times, be intended as such. In all other Cases they seem to live without any Love or Fear of him, and to follow only the Dictates of Custom and Education. They have a great Veneration for their old People, whom they always consult in any Emergencies, especially in Cases of War, either offensive or defensive; for, like other *Americans*, they make Alliances, and wage War, one Canton or Tribe against another; and tho' their Wars are short, they are generally bloody, and end in the Captivity or Slaughter of the weaker Party.—This may suffice at present for an Account of the Natives of *Canada*; which Country, the Reader is to observe, is divided into Eastern and Western, the former commonly known by the Name of *Canada* or *New France*,
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and the latter call'd *Louisiana*, in Honour of the late *Lewis XIV*, being in Reality a large Part of *Florida*, as it was originally named by the first Discoverers; but the *French* have call'd it *Louisiana* since they made some considerable Settlements in that Country.

As to that Part of *Florida* which borders on the Gulph of *Mexico*, it appears by a Memorial presented to King *William* the Third, that *England* has an undoubted Title to it ever since the Reign of *Henry* the Seventh, by whose Commission *Sebastian Cabot* discover'd all that Coast fronting the *Atlantic Ocean*, twenty Years before it had been visited by any other *European*. Then indeed the Southern Part of this Continent, towards the Gulph or Streights of *Bahama*, was visited by the *Spaniards* under *Juan Ponce de Leon*, as it was ten Years afterwards by *Vasquez Aillon*; in 1527 by *Pamphilo Navarez*, and in 1534 by *Ferdinando Soto*; but their Cruelties so enraged the Natives, that they expell'd them all one after another. The last Expedition of the *Spaniards* thither was in 1558, by Order of *Velasco*, then Viceroy of *Mexico*; but falling into Diffensions among themselves, they return'd without making any Settlement: Nor have they ever since made any on that Part of the Continent, except at *St. Mattheo*, and *St. Augustin*.

BUT it is farther worth observing, that this Country was call'd *Carolina* by King *Charles I*, on a Grant which he made of it to Sir *Robert Heath*,

Heath, his Attorney General, the Country being not then possess'd by a Christian Power. Sir *Robert* convey'd *Carolana* to the Earl of *Arundel*, who was at the Expence of planting several Parts of it, and would have effected much more, had he not been hindred by the War with *Scotland*, and afterwards by the Civil Wars in *England*. It likewise appears from the Memorial above-mention'd, that the Five Nations in the Territory of *New York*, whom the *French* commonly call *Iroquois*, who have for about eighty Years voluntarily subjected themselves to the Crown of *England*, and who had conquer'd all the Country from their own Habitations to the *Mississippi* River, and even beyond it, made a Sale and Surrender of their Conquests and Acquisitions to the Government of *New York*; which is another Proof of their being the Property of the *English*.

THE Memorial we are speaking of was presented to King *William* by the late Dr. *Coxe*, who by Coveyances from one to another, after the Death of the Earl of *Arundel*, became Proprietor of *Carolana*; and who sets forth, that at the Expence of several thousand Pounds he discover'd divers Parts of it, first from *Carolina*, and afterwards from *Pensylvania*. The Son of this Memorialist, *Daniel Coxe*, Esq; who himself resided fourteen Years in *America*, has publish'd a particular Description of this Province of *Carolana*, giving an Account of the Animals, Metals, Vegetables, &c. And as he
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composed it chiefly from Memoirs drawn by his Father from several Journals and Itineraries of the *English*, and from the Relations of other Travellers and *Indian* Traders of good Understanding and Probity, who had pass'd through the Heart of the Country, we think we may venture to rely upon his Authority in what we shall have Occasion to say concerning it.

As to the Natives of *Florida*, Authors tell us that both Sexes go naked, except a Piece of Deer-skin round their Waists. Their Legs and Arms are painted with various Figures, which are indelible; and they anoint their Skin with a Sort of Oil, which hardens them against the Heat of the Sun. They have long black Hair, which they have a Method of combing, curling, and twisting about their Heads, so that it looks very agreeable. They are very dexterous in managing their Weapons, which are Bows and Arrows, the latter pointed with sharp Stones or Fish-bones. The Women are remarkably graceful and well-shaped, and not only perform all domestic Offices, but accompany their Husbands either to Hunting or to War; on which Occasions it is said they will swim over large Rivers with their Children on their Backs. Their Corn is laid up in common Granaries, and distributed out to every Family according to its Number. Their usual Drink is Water, but they are likewise fond of a Liquor they call *Cassina*, which they drink as we do Tea: It is the Infusion of the Leaves of a

Tree much valued, not only by them but by the *Spaniards*, for its diuretic Quality.—Most of them are bigotted Idolaters, worshipping the Sun and Moon, and have a great Aversion to Christianity. They are submissive enough to their Chiefs or Heads of Clans, who are call'd *Paraoufti's*, and are the Commanders in Time of War, and Presidents of their Councils in Time of Peace. Their Priests, whom they call *Jaouna's*, have a great Influence over them, who wear long Robes made of Skins, always look grave, and live very abstemiously. As Priests, they pray and sacrifice to the Sun; as Magicians, they pretend to foretel future Events, such as the Success of their Expeditions; and, as Physicians, they bleed, vomit, and sweat the Sick, till they either kill them or work a Cure.

As to the *English* Empire on the *American* Continent, it lies along the Sea Coast, and consists of *New Scotland, New England, New York, New Jersey, Pensylvania, Maryland, Virginia, North and South Carolina, and Georgia*. We shall not attempt to give the History of these Settlements, as it may be thought that we have already wander'd too far from our Subject; but shall only take some notice of the *Indians* bordering upon our Colonies, and then proceed to the Curiosities of the Northern Part of *America*. The *Indians* of *Carolina, Virginia, Maryland, and Pensylvania* seem to believe in One God, the Creator of all things, who is infinitely happy
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in himself, but has little or no Concern with the Affairs of Mankind, having committed the Government of the World to certain inferior Deities or Demons, to whom therefore the Natives pay their Devotions. They have a great Regard to their Priests or Conjurers, (as they may be call'd) and believe there will be a future Distribution of Rewards and Punishments according to their Behaviour in this Life. The *Indians* about *Pensylvania* believe a God and the Immortality of the Soul; for they say there is a great King that made them, who lives in a glorious Country to the Southward, and that the Souls of the Good shall go thither. The other *Indians* of the more Northern Colonies, as far as we can learn, likewise acknowledge a Supreme Being, but seldom pay any religious Worship to him, unless in publick Calamities, and then they offer Sacrifices of every thing they possess, and pray for Deliverance from their Misery; they also offer Thank-offerings for publick Blessings. When it thunders, they take it to be a Sign of God's Displeasure, and will say to one another, *How angry he is!* They believe a future State of Rewards and Punishments, but they have very obscure Notions of it, and seem to think that the Rewards of the Good will consist in the Enjoyment of those Pleasures they were fond of in this World.

WITH respect to the rest of their Character, it may be said in general, and more especially of the *Indians* of *Carolina*, *Virginia*, *Maryland*,

and *Pensylvania*, that they are a good-natured, generous People, very humane to Strangers, but revengeful and implacable when provoked. They are quick of Apprehension, and gay of Temper, feasting and dancing almost perpetually. Their public Conferences shew them to be Men of Genius, and that they have a natural Eloquence, without the Help of Letters or Education * ; insomuch that a Person must be wise indeed who outwits them in any Treaty about a Thing they understand. They are in general a manly, well-shap'd Race, tall, strait, nimble, and indefatigable in their warlike Expeditions, Hunting, and Journeys. They mostly walk with a lofty Chin ; and take Pains to darken their Complexions by greasing themselves with Bear's Fat clarified, and exposing themselves to the Sun from their Infancy. They are a very healthy People, having hardly any Diseases amongst them, except the Small-Pox,

* Mr. Smith, in his *Natural History of Nevis, &c.* has given us the Articles of Friendship and Commerce proposed by the Lords Commissioners for Trade and Plantations to the Deputies of the *Cherokee* Nation on the Borders of *South-Carolina*, in the Year 1730, and likewise the Answer of the *Indian* Chiefs to those Articles: And then he proposes

it as a *Quære*, whether those *Indians* have not shewn as great Strength of natural Parts, as even the Lords Commissioners have done with all their Learning and Experience in such Affairs.—As for the Articles, we must refer the Reader who is desirous of seeing them to the above-mentioned Author, they being too long to be here transcribed.

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and those occasioned by drinking of Rum and other strong Liquors, of which they are become great Lovers since the *Europeans* came amongst them. When they have any Distemper, they are very impatient till cured, and will give any thing for that Purpose, especially for the Recovery of their Children, to whom they are extremely indulgent.— But, after all we can say on this Head, we are liable to Uncertainty, their Characters being given us variously by different Writers.

To this Account of the *Indians* of *North-America* we cannot forbear adding one Particular relating to the Character of the *English* settled in that Part of the World, which we think is much to their Honour, *viz.* their Hospitality. In general they are very courteous to Strangers or Travellers, who need no other Recommendation to a kind Reception than their being human Creatures. A Stranger has no more to do but to enquire upon the Road where any Gentleman or good Housekeeper lives, and he is sure of being entertain'd in such a Manner as his Necessities require. Nay, so far is this Humanity extended, that if the Master of the House be abroad, Orders are usually left with the principal Servant to entertain Visitors with what the Plantation affords: And even the poorer Sort of Planters, who have but one Bed, will sit up, or lie upon a Form or Couch all Night, to make room for a weary Traveller, to repose himself after his Journey. If there

happens to be a Churl, who, either out of Covetousness or Ill-nature, will not comply with this generous Custom, he has a Mark of Infamy set upon him, and is abhorred by his Neighbours.

HOPING the Reader will excuse this Sort of Digression, into which we have been unexpectedly led, (though we think it can hardly be displeasing) we come now to treat of what relates more immediately to the Design of our Undertaking.

CAVES, LAKES, CATARACTS, &c.

A TRAVELLER gives us an Account in the *Philosophical Transactions* of a remarkable Cave some Leagues to the North-West of *Mexico*, gilded all over with a Sort of Leaf-Gold, which had deluded many *Spaniards* by its promising Colour, for they could never reduce it into a Body, either by Quicksilver or Fusion. Our Author went thither one Morning with an *Indian* for his Guide, and found its Situation was pretty high, and in a Place very proper for the Generation of Metals. As he enter'd into it, the Light of the Candle soon discover'd on all Sides, but especially over his Head, a glittering Canopy of these mineral Leaves; at which he greedily snatching, there fell down a great Lump of Sand, that not only put out his Candle, but almost blinded him:
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And calling aloud to his *Indian*, who stood at the Entrance of the Cave, as being afraid of Spirits and Hobgoblins, it occasion'd such Thundring and redoubled Echoes, that the poor Fellow, imagining he had been wrestling with some infernal Ghosts, soon quitted his Station, and thereby left a free Passage for some Rays of Light to enter, and serve him for a better Guide. Our Author's Sight was somewhat affected by the corrosive Acrimony of the mineral Dust; but having relighted his Candle, he proceeded in the Cave, heaped together a Quantity of the Mineral mix'd with Sand, and scrap'd off from the Surface of the Earth some of the glittering Leaves, none of which exceeded the Breadth of a Man's Nail, but with the least Touch were divided into many lesser Spangles, and with a little Rubbing they left his Hand gilded all over.—The chymical Experiments this Traveller made with the Sand, it is not to our Purpose to relate.

ON the Western Coast of *Mexico* there is a vast hollow Rock, which having a large Hole at the Top, makes a frightful Noise at every Surge of the Sea, and sometimes spouts up Water like a Whale, to a prodigious Height: But though this is told as something wonderful, we imagine there is nothing in it but might easily be accounted for.

It is reported of the Lake of *Mexico*, that it has two Sorts of Water, one Part of it being fresh and abounding with Fish, insomuch that
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the Fishery brings in to the Government above twenty thousand Crowns *per Annum*; and the other Part salt, and ebbing and flowing like the Sea. The fresh Water is said to be usually calm, but the salt generally boisterous, and to breed no Fish. It is added, that in the Middle of this Lake there is a Rock, from whence issues a considerable Stream of hot Water.

THE large Lakes of *Canada* deserve to be mention'd, the principal of which are five in Number, and are sometimes call'd Seas, on account of their Extent. That call'd the *Upper Lake*, or the Lake of the *Nadouessons*, is esteem'd at least a hundred and fifty Leagues in Length, sixty in Breadth, and five hundred in Circumference. It is all over navigable, and has some Islands, especially one call'd *Minong*, above threescore Miles in Compass, wherein both the *Indians* and *French* affirm there is a great Mine of very pure Copper, the Ore affording three Fifths of fine Metal, without any Preparation besides melting. It is remarkable of this Lake, that all along the Shore on the South Side it is not above four or five Fathoms deep, but gradually increases in Depth as we pass over to the North, till no Bottom is to be found at a hundred and fifty Fathoms.—The other Lakes, though very large, are not equal to this in Dimensions.

IN the River *Niagara*, which forms a Communication between two of these Lakes, there is one of the most surprising Cataracts or Falls
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of Water yet discover'd in the World. Father *Hennepin*, a *French* Missionary among the *Canada Indians* bordering on its Banks, has described this prodigious Cascade as falling down a Precipice a hundred Fathoms high, which is six hundred Feet ; but Mr. *Dudley* has publish'd an Account of this Cataract, taken at *Albany* in 1721, from Mr. *Borassaw*, a Native of *Canada*, which perhaps comes nearer the Truth. That Gentleman says, that the Governor of *Canada* having order'd his own Son with three other Officers to survey the *Niagara*, and take the exact Height of the Cataract, they accordingly did so with a Stone of half a hundred Weight tied to a large Cod-Line, and found it upon a Perpendicular no more than twenty-six Fathoms. Upon Mr. *Dudley's* objecting *Hennepin's* Account of this Cataract to Mr. *Borassaw*, he replied, that indeed every body had depended upon it as right till the late Survey ; and he acknowledged that below the Cataract for a considerable Way there were a great many small Ledges of Rocks across the River, which gradually lessen'd till they came to a Level ; so that if all the Descents were put together, he did not know but the Difference of the Water above the Falls, and the Level below, might come up to Father *Hennepin's* Account : But the Cataract, properly so call'd, is no more than twenty-six Fathoms, or a hundred and fifty-six Feet ; which is a prodigious Thing, and what the World

World cannot parallel *, considering the Largeness of the River, which, straiten'd as it is in that Part, is near a Quarter of an *English* Mile broad, and very deep Water. Both above and below these Falls the River is much wider, and from below there is no coming nearer them by Water than about six *English* Miles, the Torrent is so rapid and the Whirlpools so terrible.

It has been alledged that this Cataract makes such a prodigious Noise; that People cannot hear each other speak at the Distance of some Miles from it; but M. *Borassaw* affirms, that they may converse together close by it: And it has been also positively asserted, that the Shoot of the River, when it comes to the Precipice, was with such a mighty Force, that Man and Horse might go under it without being wet; but this M. *Borassaw* likewise denies, and says that the Water falls in a manner directly down. He farther observes, that the Mist or Shower which the Falls occasion is so extraordinary as to be seen at five Leagues Distance, and rises as high as the common Clouds. In this Mist,

* *Misson* tells us, that the River *Velino* in *Italy* throws itself from a steep Rock three hundred Feet high; and *De L'Isle* represents one of the Cataracts of the *Nile* as falling from a Height of two

hundred Feet, as we have observ'd in *Vol. III. p. 214*: But for want of an actual Measurement, these Accounts seem not so much to be relied on, as that here given of the Cataract of *Niagara*.

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when the Sun shines, there is always a glorious Rainbow.

Mr. *Dudley* tells us, that he himself saw a Cataract three Leagues above *Albany* in the Province of *New York*, upon *Schenectada* River, call'd *Coboes*, which is not above forty or fifty Feet perpendicular; but from this there also arises a misty Cloud, which descends like small Rain, and exhibits, when the Sun shines, a beautiful Rainbow*, that moves as the Spectator moves, according to the Angle of Vision.—Our Author adds, that twenty Miles to the Eastward of *Hudson's River*, near the Middle of a long Hill, he met with a brisk noisy Brook, sufficient to turn a Mill; and having observ'd nothing of it at the Beginning of the Hill, he turn'd about and follow'd the Course of it, till at last he found the End of it, being absorbed and sinking into the Ground: And though it be common in other Parts of the World for Brooks and even Rivers to be thus lost, it was

* *Misson* relates the same of the Mist arising from the Cataract of *Velino*, mention'd in the preceding Note. Mr. *Smith* took notice of the like Phænomenon at the Cataract of *Narva* in *Livonia*. We also read of *Marine Rainbows*, sometimes observ'd in a much agitated

Sea, when the Wind sweeps away the Tops of the Waves, and carries them aloft, so that the Sun's Rays falling on them are refracted, &c. as in a common Shower, and paint the Colours of the Bow, but less distinct and of less Duration.

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the first of the Sort he had ever heard of or seen in that Country.

As to Rivers, the Northern Part of *America* abounds with large ones, of which it is not our Business to enter into a Detail, but shall give a brief Account of the two most considerable, which are those of *Canada* or *St. Laurence*, and *Mississippi*. The River of *St. Laurence* (a Name given it by the *French*) is the largest in *North-America*, and inferior to few in the World, being computed to be about thirty Leagues broad at the Mouth, and two hundred Fathoms deep: It takes its Rise, as is supposed, from some of the great Lakes above-mention'd, and falls into the Gulf of *St. Laurence* at the Isle of *Anticosti*, having received many other Rivers in its Course, which is generally reckon'd to be about eight hundred Leagues. The Source being unknown, the Length of its Course cannot be determined; and as to its Navigation, Authors give us such different Accounts as are not easy to reconcile, some representing it as safe, easy, and pleasant, and others as so extremely difficult and dangerous, that the most experienced Pilots have much ado to escape the many Dangers they are exposed to, from the sandy Banks, Rocks and Shoals along the North Shore; but however the River in general is very deep, nor is its Navigation interrupted by Cataracts, till a great Way above *Quebec*, which is more than three hundred Miles from the Sea. There are
many

many pleasant Islands in it, some of which are inhabited, well cultivated, and fertile.

THE *Mississippi*, *Messissippi*, or *Meschacebe*, as Mr. *Coxe* calls it, is another very large River, which runs from North to South through the greatest Part of *Florida* or *Louisiana*, and empties itself by two Mouths (*Coxe* says seven) into the Gulf of *Mexico*, after having received innumerable Rivers in its Course. The Source of this River is likewise not certainly known, though Mr. *Coxe* says it is in the Country of the *Sieux*, not very far distant from *Hudson's Bay*. The Natives say it flows from a large Spring in the Country of the *Iffati*, in about the fiftieth Degree of Latitude; and some *Frenchmen* pretend to have sailed up it to within two Leagues of its Head, where they carv'd the Arms of *France* on the Trunk of a Tree; but these Accounts, we imagine, are only calculated to support the Pretensions of the *French* to this vast Country. M. *Salé* indeed, in 1683, sailed down the *Mississippi* from the River of the *Illinois* to its Mouth, which he computes to be six hundred and fifty-three Leagues, and the *French* have at present several Settlements upon this great River; but whether their Claim is better founded than that of the *English*, we leave to the Judgment of the Reader.

FOSSILS.

THE *Spanish* Dominions in *North America* abound with Mines of Gold and Silver, especially the latter, of which precious Metal it is said there are no less than a thousand Mines in the *Mexican* Empire; but many of these are not wrought, for want of native *Spaniards* and Negroes. Mr. *Coxe* affirms, that *Carolana* (or *Louifiana*) has Copper in abundance, and so fine that it is frequently found on the Surface in Pieces very pure without melting; and those who have tried the Ore say, that by the common Methods it yields above forty *per Cent.* The Lead-Ore in that Country affords sixty *per Cent.* and has been already discover'd in Quantities more than sufficient for common Use. Iron Ore is also found plentifully in many Places near the Surface of the Earth, from which a Metal is extracted little inferior to Steel in Goodness. Some Mines of Quicksilver have likewise been discover'd, and our Author thinks many more might be found if proper Search were made after them. The Mineral from whence the Quicksilver is obtain'd is of a scarlet or purple Colour, which the Natives make no other Use of than to paint their Faces and Bodies therewith in Time of War, or on Occasion of Festivals and Rejoicings. This Ore is broken and distill'd in earthen Pots, the Necks whereof are put into others almost full of Water,

ter, which last are placed in the Ground; and being thus set in Rows almost contiguous, a Fire is made over them with small Brush-Wood, which drives the Quicksilver out of the Ore into the Water. Three or four Men will tend some thousands of these Pots. The great Trouble is in digging; but all the Expence does not amount to a tenth Part of the Value of the Produce.

To make it appear probable that both Gold and Silver might be found in *Louisiana*, Mr. Coxe gives us some Accounts he receiv'd from Persons of Credit, and particularly by Letters from *New Jersey*, written by one well skill'd in the refining of Metals, signifying, that for several Years successively a Fellow took a Fancy to ramble with the *Indians* to the other Side of the Mountains which separate that Colony and *New York* from the Country we are speaking of, and always brought home with him a Bag, as heavy as he could well carry, of Dust, or rather small Particles of divers Sorts of Metals, very ponderous. When melted it appear'd to be a Mixture of Metals, to which at first they could assign no Denomination; but by repeated Trials they found it contain'd Lead, Copper, and, when refin'd, above a third Part of Silver and Gold. Great Pains were taken to bring this Fellow to discover where he got this Treasure, which serv'd him only to drink and sot till he went on another Expedition; but nothing could prevail upon him to declare any more than this,

that about three hundred Leagues South-West of *Jersey*, at a certain Season of the Year, there fell great Torrents of Water from the Mountains, and when they ceased the *Indians* wash'd the Sand or Earth at some Distance below those Falls, and at the Bottom remain'd that Medley of Metals.—Our Author farther observes, that there are great Quantities of Orpiment and Sandarach in divers Parts of this Province; and Writers on Metals and Minerals affirm, they not only contain Gold, but where they are found they are generally the Covering of Mines of Gold or Silver.

As to the Gems of *Louisiana*, all that Mr. *Coxe* knows of are *Ametbysts*, of which there are very fine and large; and *Turquoises*, thought to be as fine and large as any in the World. There is also an Account of *Lapis Lazuli*, which, according to those skill'd in Mines, is another Indication that Gold is at no great Distance.—But we need say no more of Gems or Metals in this Place, having spoken of them sufficiently as they occur'd in the Course of this Work.

UNDER this Head we may take notice of the *Filtre-Stone* of *Mexico*, though perhaps it should rather be referr'd to the Vegetable Kingdom. It is said to grow under Water on the Rocks in some Parts of the Gulph of *Mexico*, and to harden and petrify spontaneously in the Air; but Dr. *Vater*, who has given some Account of it in the *Philosophical Transactions*, does
not

not take upon him to determine its Origin nor the Manner of its Growth, both appearing to be very suspicious. It has obtain'd the Name of *Filtre* from its Porosity, whereby it lets Liquors pass through it; and for this Reason Pots and Mortars are made from large Pieces of it, to strain Liquors, particularly Water to drink; for it is thought that Water filtrated through this Stone is thereby freed from all its Impurities, and becomes more wholesome. This is the Reason, says the Doctor, that these Stones are highly valued in *Japan*, and sold at the Price of Gold; because the *Japanese*, who know nothing of the Stone or other Disorders in the Kidneys, and who prefer Health far before all other Blessings, think the Filtration of their Drink contributes to the prolonging of Life. But, according to *Le Clerc* and other Writers, these tophaceous Stones are not confin'd to *Mexico*, but dug up in several Parts of *Europe*; and our Author had a choice Collection of Fossils presented to him by Dr. *Erbart* of *Memmingen*, in which there was a *Tophus* peculiarly porous, found about that City, which would strongly imbibe Water as soon as applied to its Surface. However, whether the *Mexican* Filtre be taken out of the Sea, or dug out of the Earth, Dr. *Vater* does not pretend to determine, as has been already intimated.

With respect to the Virtue ascribed to the *Mexican* Filtre-Stone, our Author, from several Observations and Experiments, makes it evi-

dent, that no Stone-Filtres are able to depurate Water, and separate the saline earthy and mineral Impurities therein dissolv'd: Yet he does not deny, but that muddy and slimy Waters may by straining through such Stones become clear and pellucid; because these Impurities do not dissolve in the Water, or intimately incorporate with it, but only float therein. These excepted, no other Waters can be made purer, as the Doctor learnt from repeated Experiments, made both by the Filtre of *Holland*, the *Tophus* of hot Baths, and common Stone, on several Kinds of River and Spring Water; for having examin'd their Weight before and after Filtration, he found little or no Difference. How happy therefore, observes the Doctor, are the Countries to which Providence has given limpid and wholesome Springs of Water, which require no such Filtres! But as for those that are deprived of this Blessing, the best they can do is to use Rain-Water, which by Distillation is freed from all its Impurities.

We have already in several Places taken notice of the extraneous Fossils that are found in different Parts of the World, and particularly of the Bed of Oyster-Shells near *Reading* in *Berkshire**; but this seems trifling compar'd to the Accounts we have of the vast Quantities of these Shells found in *Virginia*, where for many Miles together the Earth is intermix'd with

* See Vol. I. p. 36.

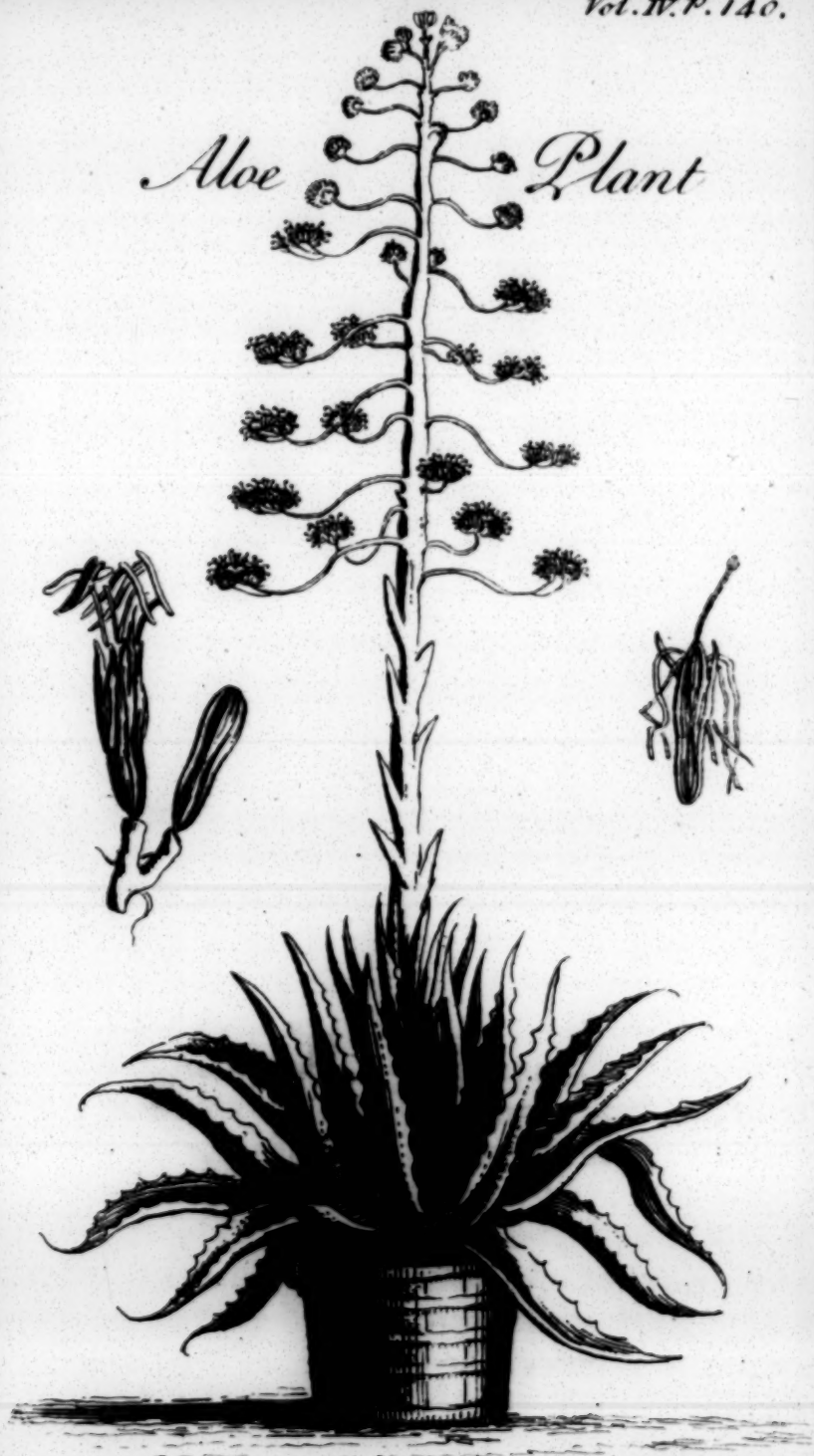
them to the Depth of several Yards. In some Places the Shells lie closely bedded together, and look like the Veins of a Rock, of which some are three or four Yards thick, and as hard as Free-stone. Of these Rocks of Oyster-Shells, which are not so much petrified, they burn and make all their Lime; and in the looser Banks of Shells and Earth there are often found perfect Teeth petrified, some of which are two or three Inches long, and above an Inch broad, the Part that one may suppose to have grown out of the Jaw being polish'd, and almost as black as Jet. The Back-Bones and Ribs of Whales (according to Mr. Clayton) have also been dug up many Miles distant from the Sea. —But this Subject having been sufficiently handled in the preceding Parts of this Work, we shall not enlarge upon it here. We may add, however, one Particular relating to *Virginia* which is very remarkable, viz. that from the Sea-Coast for a hundred Miles up into the Country there is scarce a Stone to be seen, except here and there some Rocks of Iron-Ore; so that they ride their Horses without shoeing them, and the Country and Climate being dry, their Hoofs are harder than those of our Horses in *England*. Instead of Stones they find a Clay, of which they make very fine Bricks; and it is to be observ'd, that at the Water-falls from the Mountains there are Stones enough of different Kinds, fit for paving and other Uses. The Hills likewise afford Quarries of Slate and
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of a Kind of Free-stone ; and they have also a Sort of shining Pebbles, not unlike *Kerry-Stones*, which, though generally soft, are said to harden by the Air, and when polish'd are extremely beautiful. As to Mines, they have several of good Iron in divers Parts of the Country : But we need not dwell longer on a Subject which affords us nothing very remarkable, and therefore shall proceed to that of

VEGETABLES.

THE Ancients seem to have been acquainted with only one Species of the *Aloe*, but the late Travels into *Asia*, *Africa*, and *America*, have occasion'd the Discovery of at least forty Sorts unknown to Antiquity ; nay, Mr. *Bradley* assures us, he has seen above sixty several Kinds in the Physick-Garden at *Amsterdam*. Be this as it will, our present Business is chiefly with what we call the *American Aloe*, which is one of the most curious and remarkable Plants of all the numerous Species. Almost every one knows, that the Aloe-Plant has very thick green Leaves, broad towards the Root and tapering to a Point, stiff and prickly, and yielding a Kind of Cotton, whereof Laces may be made. From the Midst of the Leaves arises a Stem, which bears the Flowers and Fruit. The Flowers grow at the Ends of Branches that shoot out opposite to each other ; and each consists but of one Leaf, cut into six Segments
at

Aloe Plant





at the Top like the Hyacinth. The Fruit is oblong and cylindrical, divided into three Cells, in which are contain'd flat, and for the most part semicircular Seeds. - Most of the *African* Sorts produce Flowers with us annually, when grown to a sufficient Size; but the *American* Aloe, which most commonly produces its Flower-Stem immediately from the Centre of the Plant, seldom flowers till it be of a great Age, and this but once during the Life of the Plant; so that to have one flower in *England* is reckon'd a Curiosity, and generally draws a vast Number of Spectators. It is observ'd, that when the Flower-Stem, which is usually large and grows to a great Height, begins to shoot from the Middle of the Plant, it draws all the Nourishment from the Leaves; so that, as the Stem advances, the Leaves decay; and when the Flowers are full blown, scarce any of the Leaves remain alive: But whenever this happens, the old Root sends forth numerous Offsets; and it is only at this Time that some of these Aloes can be propagated.

DR. Merret tells us, that he had an *American* Aloe, consisting of eleven Leaves, which was tied about with a red dry Cloth, and hung up, without Oil, in his Kitchen. In a whole Year he observ'd it lost two Ounces, three Drams, and twenty-four Grains of its Weight. The next Year being drier and hotter it lost upwards of three Ounces; and more than double in the six colder than in the six hotter Months. He kept

kept it about five Years, and it wastéd much in the same Proportion, till at last, hanging it in a cold Garret, it died. The Doctor took notice, that every Year two of the greater Leaves first changed Colour and withered, and every Spring there succeeded two fresh and green ones, of the Size of the preceding; from whence he thinks it may be probably inferred, that there is a Circulation of the nutritious Juice in this Plant; for how is it possible that the Roots; continuing firm and solid as at first, should supply so much Nourishment, unless the said Juice return'd from the old decay'd Leaves into the Root, and so produced new ones?

It is proper to observe, that of all the Species of Aloes there are not above twelve that yield the inspissated Juice of the same Name, much used as a purgative Remedy. This Juice is obtain'd by cutting the Leaves of the Plant, from whence it oozes either spontaneously or by pressing, and is expos'd to the Sun till it becomes of a proper Consistence. There are three Sorts of Aloes, the *Succotrine*, which is the purest; the *Hepatic*, which is somewhat coarser and harder; and the *Caballine* or *Horse-Aloes*, which is the most impure, blackest, and strongest of all, and is of little Use amongst us but for Horses and Cattle. Whether these are all procured from the same Plant, or from different Species of it, Authors are not rightly agreed.—The best Aloes is that which is pinguious, of a dark Colour, in some measure friable,

able, its Smell resembling that of Myrrh, and which when pounded yields a Powder of a golden Colour. In Consequence of its Bitterness it is call'd the *Gall of Nature*; and this makes it so nauseous, that it is rarely used in liquid Forms, but made up into Pills. It consists of two Substances, one resinous, which may be extracted by Spirit of Wine; the other of a gummy Nature, which may be dissolved in Water. Its balsamic Quality is so great, that Animalcules may be preserved in it for Ages; and upon this Account it is used in embalming human Bodies. Its cathartic Virtue is best employed in watry, cold, mucous Constitutions, and such as are disposed to the Generation of Acids. Against Worms it is used both internally and externally, and it is reckon'd efficacious in promoting the Menfes. The succotrine Aloes is preferable for internal Uses, and the hepatic for external.

AMONGST the Vegetables of *America*, one of the first we ought to mention is the celebrated Plant we call *Tobacco**, which is now grown into such general Use in *Europe*, and makes one

* This Plant has different Names among the *Indians* in different Parts of *America*, as *Petun*, *Picelt*, *Yoli*, &c. The *French*, at its first Introduction amongst them, gave it various Names, as *Nicotiana*, (scil. *herba*) or the *Embassador's Herb*, from *John Nicot*, then *Embassador* of *Francis II.* in *Portugal*, who brought some of it with him from *Lisbon*, and presented it to a *Grand Prior* of the House of *Lorrain*, and to *Queen Catharine de*
of

of the most profitable Branches of the *English* Commerce. The *Virginian* Tobacco, especially the sweet-scented, which grows on *York River*, is reckon'd the best in the World, and is generally vended in *England* for home Consumption; but the hotter Sorts, either of *Virginia* or *Maryland*, turn to as good Account, being demanded in *Holland*, *Denmark*, *Sweden*, and *Germany*. Mr. *Clayton* says, that the sweet-scented Tobacco, which grows on sandy Land, is best for smoaking whilst new, or only two or three Years old; but if the stiff Land Tobacco, which is generally of a good Substance, be kept five or six Years, it will much exceed the former.

THE Manner of planting and ordering Tobacco is this: The Seed is first sown in Beds of fine Mould, and when the Plants are risen to a convenient Height, they are transplanted to little Hills three or four Feet from each other, somewhat in the Manner of Hop-Grounds. This is done about the Beginning of *May*, from which Time the Hills are kept continually weeded, and when the Plants have put forth such a Number of Leaves as they think the Soil will nourish to a sufficient Substance and Largeness, they take off the Top of each Plant,

Medicis, whence it was also call'd *Queen's Herb*, and *Grand Prior's Herb*. They also gave it other Names, which are now all reduced

to the original Name *Tobacco*, given it by *Hernandez de Toledo*, who first sent it into *Spain* and *Portugal*, about the Year 1560.

which

which after that grows no higher. If the Ground be rich, they let a Plant put forth twelve or fifteen Leaves before they top it; if poor, not above nine or ten; and so in Proportion to the Goodness of the Soil. The Suckers which the Plant puts forth between the Leaves are taken off once a Week till it comes to Perfection, which it does in *August*. Then in dry Weather, when there is a gentle Breeze of Wind, they cut down what is ripe, letting it lie three or four Hours on the Ground; after which they carry it on their Shoulders to the Tobacco Houses, or Sheds, where a Peg is driven into the Stalk of each Plant; and by these Pegs the Plants are hung up to dry, so near each other that they just touch. Thus they let them hang for five or six Weeks, till such time as the Stem in the Middle of the Leaf will break in bending it; and when the Air has so moisten'd the Leaf that it may be handled without breaking, they strip them off the Stalk, tie them in little Bundles, and pack them up in Hogheads for Exportation. The Bundles design'd for Twist-Tobacco are steep'd in Sea-Water, or, for want of that, in common Water, then twisted in the Manner of Ropes, and the Twists form'd into Rolls by winding them with a Kind of Mill round a Stick; and in this Condition they are imported into *Europe*.

MR. *Clayton* informs us, that sometimes they are forced to plant their Hills twice or thrice over, on account of an Earth-Worm which eats

the Root; and when the Plants are well grown they often suffer Damage by a Worm call'd a Horn-Worm, which is bred upon the Leaves, and, if not carefully taken off, will spoil a whole Crop. The Plants, when young, are also sometimes destroy'd by a small Fly, which breeds upon them in gleamy Weather; and they are likewise subject to a Distemper they call *firing*, which happens when very hot Weather suddenly follows a wet and cold Season, at which time the Leaves of the young Plants turn brown and are dried to Powder. Another Fault is when the Leaves do not spread and grow large, but rather spire upwards and grow tall; and such Plants as these they call *Frenchmen*.

TOBACCO is very much used amongst us, either by smoaking it in a Pipe, by way of Snuff, or by chewing it in the Mouth; and it is sometimes put up the Noife in little Pellets, where it is found to produce good Effects, to draw a deal of Water or *Pituita*, to unload the Head, resolve Catarrhs, and cause a free Respiration; but this Way of taking Tobacco is said to weaken the Sight. When taken in great Quantities in the way of Snuff, it is found to prejudice the Smelling, and greatly diminishes the Appetite. That taken in the way of Smoke dries and damages the Brain; insomuch that we read of a Person who through Excess of Smoaking had dried his Brain to that Degree, that after his Death there was nothing found in his
Skull

Skull but a little black Lump consisting of mere Membranes. Indeed smoaking and chewing of Tobacco have been esteem'd of Service where the Glands of the *Fauces* have abounded with Lymph, or where the Constitution in general has been too much loaded with *Serum*; and the same has been said to relieve some asthmatic Patients, which is not unlikely: But this can be no Reason for its habitual Use, especially in those who have no Occasion for it; for to such, as an eminent Physician apprehends, it does a great deal of Prejudice, by drawing off the *Saliva*, which Nature providently prepares to dilute and in some measure to dissolve the Aliments taken in the Stomach. Besides. it excites a perpetual Thirst, and thereby tempts the Person who smoaks or chews to drink more than is sufficient for any good Purposes in the Constitution. Add to this, that many People have been brought into Dropsies and Consumptions by too profuse Discharges of the *Saliva*, excited by smoaking or chewing Tobacco. Upon the whole, it must needs be extremely prejudicial, unless when it can be made subservient to any good medicinal Purposes; and even then, like Opium, it should be used when required only, and left off immediately when the Necessity for it ceases. The same may be said of Tobacco consider'd as a Sternutatory, which may answer some Purposes as a Medicine, but is sure to be prejudicial when render'd

habitual by way of Amusement*.—This Plant is narcotic, emetic, and cathartic to such a Degree, that the internal Use of it is seldom or never to be allow'd, though a Water distill'd from the green Leaves is much recommended for dissolving Stones in the Urinary Passages. Some People use an Infusion of Tobacco as an Emetic; but it is a dangerous and unjustifiable Practice, as it is too apt to produce violent Vomittings, Sickness, and Stupidity. A strong Decoction of the Stalks, with sharp pointed Dock and Alum, is reckon'd of good Service, used externally, in cutaneous Distempers, especially the Itch, for which Purpose some boil them in Urine; and the same is said to be an infallible Remedy for the Mange in Dogs. The Juice of Tobacco is recommended to preserve the Teeth and Gums, and to cure the Tooth-ach; for which last Purpose the chymical Oil of Tobacco, dropp'd on Lint and applied to the Tooth, has been of Service; but People should be very cautious how they use this Oil, which is so strong, that a Drop or two of it put on the Tongue of a Cat produces violent Convulsions, and Death itself in the Space of a Minute. Some Writers extol the Use of To-

* Some Princes, as *Amurath IV.* Emperor of the *Turks*, an Emperor of *Persia*, and a Great Duke of *Muscovy*, have prohibited the Use of Tobacco in their

Dominions; and our King *James I.* was so sensible of its pernicious Effects, as to write a Treatise expressly against it, entitled, *A Counterblast to Tobacco.*

bacco.

bacco in Times of Pestilence, asserting that when the Plague raged in *London* the Houses of Tobacconists escaped the Infection. But the greatest Use of Tobacco in Medicine is in Clysters; for even the Smoke of it convey'd into the Intestines stimulate so strongly, as to procure Stools when every other Method of doing it has fail'd.

ANOTHER very remarkable Vegetable of *North America* is the *Poison-Wood-Tree*, which grows in *New-England* in Swamps or low wet Grounds, and is described by Mr. *Dudley* as somewhat like a small Ash, but much more like a Sumach, which it exactly resembles in its Twigs, Leaves, and Shape, so that some call it the *Swamp-Sumach*; and it likewise bears a dry Berry. It never grows bigger than about the Thickness of a Man's Leg, and as tall as an Alder; but it spreads much, and several grow together, especially about the Roots of one that has been cut down. The Inside of the Wood is yellow, and very full of Juice, which is as glutinous as Honey or Turpentine, and stinks as bad as Carrion; and the Wood itself has a very strong disagreeable Smell.—As to its poisonous Quality, our Author observes, that it poisons two Ways, either by the Touch or by the Smell; the Scent of it, when cut down in the Woods, or burning in the Fire, being poisonous to a great Degree. One of Mr. *Dudley's* Neighbours was blind for above a Week with only handling it; and a Gentleman sitting

by his Fire-side in the Winter was swell'd for several Days with the Smoke of some of this Wood that happen'd to be in the Fire. But what is strange, it has this Effect only on some particular Persons and Constitutions, for Mr. *Dudley* has seen his own Brother not only handle it, but chew it without any Harm at all; and so by the same Fire one shall be poison'd, and another not in the least affected. However, this Sort of Poison is never mortal, but will go off in a few Days of itself; though generally the Patient applies Plantain-Water, or Sallet-Oil and Cream. A few Hours after a Person is poison'd, he feels an itching Pain that provokes a Scratching, which is follow'd by an Inflammation and Swelling.—The Wood is as cold as Ice, as Mr. *Dudley's* Neighbour that was poison'd told him, so that he plainly perceiv'd it differ'd from the other Wood he was throwing up into his Cart; and he assured him he could distinguish it blindfold, or in the dark, from any other Wood in the World by its Coldness.

As we are now speaking of *New England*, it seems proper to add some other Observations of Mr. *Dudley* on the Vegetables of that Country, and particularly on the *Indian* Corn or *Maize*, which is the most prolific Grain they have, commonly producing twelve hundred Grains from one, and often two thousand*. But the fairest

* The Fecundity of divers Plants is very surprizing. We have an Account in the *Philosophical Transactions* of Com-

Computation (says our Author) is this: Six Quarts of this Grain will plant an Acre of Ground, and it is not unusual for an Acre of good Ground to produce fifty Bushels of Corn. —Another thing very remarkable in the *Indian*

of a single Plant of Barley, that by steeping and watering it with Salt petre dissolved in Water, produced two hundred and forty-nine Stalks, and eighteen thousand Grains. In this Case indeed there was Art and Force made use of, but we have remarkable Instances of this Kind, affected by unassisted Nature, particularly that of a Pompion-Seed, attested by Mr. *Edwards* of *Windsor*. This Seed, in the Year 1699, was accidentally dropp'd in a small Pasture, where Cattle had been fodder'd for some time; and taking Root of itself, without any manner of Care the Vine ran along over several Fences, and spread over a large Piece of Ground far and wide, continuing its Progress till it was kill'd by the Frost. The Seed produced no more than one Stalk, but it was a very large one, being eight Inches round; and from this single Vine they

gather'd two hundred and fifty Pompions, one with another as big as a Half-Peck, besides a considerable Number of small ones, not ripe, which they left upon the Vine. Add to this what M. *Dodart* observes, who has an express Discourse on the Fecundity of Plants in the *Memoirs of the Academy of Sciences*, wherein he shews, that an Elm, at a moderate Computation, yields one Year with another 329,000 Grains or Seeds; each of which, if properly lodged, would grow up to a Tree. Now an Elm ordinarily lives a hundred Years, and consequently, in the Course of its Life, produces near thirty-three Millions of Grains, all coming originally from one single Seed. —But Instances of this Fecundity need not be multiplied here, being obvious to every one's Observation, who has the least Regard to the Wonders of Nature.

Corn

Corn is its Variety of Colours, as blue, white; black, red, yellow, greenish, speckled, striped, &c. and if any one Sort be planted separately, so that no other Sort be near it, it will retain its own Colour; but if in the same Field you plant the blue Corn in one Row of Hills (as they are call'd) and the white or yellow in the next Row, they will mix and interchange Colours; that is, some of the Ears in the blue Corn Rows shall be white or yellow, and some in the white or yellow Rows shall be blue. The little Hills of *Indian* Corn are generally four or five Feet asunder, and continued regularly in strait Lines, something in the Manner of a Hop-Ground; and yet this mixing and interchanging of Colours has been observ'd when the Rows of Hills have been several Yards distant from each other: Nay, Mr. *Dudley* was assured that this Interchange has been made even at the Distance of four or five Rods, and particularly in Place where there was a broad Ditch of Water between the two different Sorts of Grain; so that the Mixture cannot be owing to the Roots and small Fibres reaching to and communicating with each other, as some have imagined. Our Author, therefore, is of Opinion, that the *Stamina* or Principles of this surprizing Copulation or Commixture of Colours are convey'd by the Wind, and that the Season of it is when the Corn is earing, and while the Milk is in the Grain; for at that Time it is in a Sort of Estuation, and emits a strong Scent. What con-

confirms this Hypothesis, of the Air being the Medium of this Communication of Colours in the Corn, is an Observation of one of Mr. *Dudley's* Neighbours, viz. that a close high Fence of Boards between two Fields of Corn, that were of a different Colour, entirely prevented any Mixture or Alteration.

MR. *Winthorp* describes the Ear of the *Indian* Corn as generally about a Span long, consisting of several Rows of Grain, commonly eight or more, according to the Goodness of the Soil, and each Row containing above thirty Grains. The white and yellow Sorts are the most common; but he observes, that not only in the same Field, but even in the same Ear, the Grains are sometimes of different Colours. The Ear is cloathed and armed with several strong thick Husks, which not only defend it from unseasonable Rains, and from the Night-Colds, (it being the latter End of *September* before it is fully ripe in some Parts) but also from Crows, Starlings, and other Birds. Its Stalk grows to the Height of six or eight Feet, more or less, according to the Condition of the Soil, or the Kind of the Seed. The Maize of *Virginia* grows taller than that of *New England*, and there is a Sort used by the Northern *Indians* farther up the Country, which is much shorter. It is always jointed like a Cane, is full of a sweet Juice, and at every Joint grow long Leaves almost like Flags, and at Top a Bunch of Flowers like the Blossom of Rye. The
Man-

Manner of planting this *Indian* Wheat is in Rows at equal Distances every Way, as has been already mention'd; and when the Corn is grown up to a proper Height, they cut up the Weeds and loosen the Earth about it with a broad Hoe, repeating this Labour as often as the Growth of the Weeds makes it necessary. When the Stalk begins to grow high, they draw a little Earth about it; and upon the putting forth of the Ear, they scrape up as much as will make a little Hill like a Hop-Hill; after which they give themselves no farther Trouble about it till Harvest.—This Culture is all done with the Hoe, but the *English* have now taken a better Way of planting. With the Plough they make single Furrows through the whole Field at the Distance of six Feet, or as they see convenient; and to these they make cross Furrows at the same Distance. Where these Furrows intersect each other they throw in the Corn, and cover it either with the Hoe, or by running another Furrow with the Plough. When the Weeds begin to over-top the Corn, they plough the rest of the Field between the planted Furrows, and so turn in the Weeds. This is repeated when they begin to hill the Corn with the Hoe, and thus the Ground is loosen'd, and the Roots have Liberty to spread.—The Husks that grow about the Ear of this Corn the *Indian* Women slit into narrow Slips, and weave them curiously into Baskets of several Fashions.

SPEAKING of some of the Vegetables in *New England*, Mr. *Dudley* mentions a *Platanus* or *Button-Wood-Tree*, as it is there call'd, which was nine Yards round, and held that Bigness a great way up; and this Tree, when cut down, made twenty-two Cord of Wood, as our Author was informed. This Tree he often propagated by cutting of Sticks five or six Feet long, and setting them a Foot deep in the Ground in the Spring of the Year, when the Season is wet; and this and the *Locust-Tree* (or *American Manna*, as Mr. *Dudley* thinks it may be call'd) are remarkable for their quick and easy Growth. A Seed of the latter, blown off into our Author's Garden, took Root of itself, and in less than two Years was got above six Feet high.

WITH regard to their Fruit-trees Mr. *Dudley* observes, that their Peach-trees are all Standards, and he himself has had in his own Garden seven or eight hundred fine Peaches of the *Rare-ripes* growing at the same time upon one Tree; to which we may add, that in several of the Plantations they have such vast Quantities of Peaches, that they beat them off the Trees and give them to their Hogs. These Trees raised from the Stone will bear in three Years; and our Author had one in his Garden of twelve Years Growth, that measured two Feet one Inch round, a Yard from the Ground, and two Years before bore near two Bushel of fine Peaches.

THE People of *New-England*, says Mr. *Dudley*, have of late Years run so much upon Orchards, that in a Village near *Boston*, consisting of about forty Families, they made in the Year 1721 near three thousand Barrels of Cyder; and in another Town of two hundred Families, in the same Year, they made near ten thousand Barrels. Some of their Apple-trees will yield six, some seven Barrels of Cyder, at the rate of eight or nine Bushels of Apples to the Barrel; but this is not very common. Mr. *Dudley* has seen a fine Pearmain Tree, which, at a Foot from the Ground, measured ten Feet four Inches round, and in one Year bore thirty-eight Bushels of excellent Fruit. The largest Apple tree he found in that Country was ten Feet and a half in Compass.

THE *Orange* Pear-tree, according to our Author, grows the largest, and yields the fairest Fruit. He observed one of these Trees near forty Feet high, which was six Feet six Inches in Circumference, a Yard from the Ground, and bore thirty Bushels at a time; and he himself had a Pear-tree that was five Feet six Inches round. One of his Neighbours had a *Bergamot* Pear-tree, brought from *England* in a Box about the Year 1643, which was six Feet in Compass, and in one Year bore twenty-two Bushels of fine Pears.

THE same Gentleman gives us a remarkable Instance of an Apple-tree in an Orchard, which bore a considerable Quantity of Apples, especially

cially every other Year, and yet never had a Blossom. For three Years he went in the proper Season and observ'd it; and when all the rest of the Orchard was in Bloom, he could not see one single Blossom upon this Tree. Not contented with once going, he went again and again, till he found the young Apples perfectly form'd. One Year he took notice of it early, not knowing but it might blow sooner than the other Trees; but he found no Blossoms: And the Owner, with several of his Neighbours, assured Mr. *Dudley* they had known the Tree upwards of forty Years, and that it never had any Blossom. Our Author open'd several of the Apples, and found very few Seeds in them, some of which were lodged single in the Side of the Apple.

MR. *Glover*, who has given some Account of *Virginia* in the *Philosophical Transactions*, observes that Fruit-trees are very numerous in that Country; insomuch that there are few Planters without their Orchards, some containing twelve hundred Trees and upwards, bearing all Sorts of *English* Apples, as Pearmain, Pippins, Russetins, Marigolds, King's Apples, Batchelors, &c. of which they make a great deal of Cyder. They have also infinite Quantities of Peaches, with which they feed their Swine, (as we have hinted above) and Quinces in Abundance, both larger and fairer than the *English*, and not so harsh in Taste. They make a Drink of the Juice of Quinces; and they have also Apricocks,

and some Sorts of *English* Plums, but these do not ripen so kindly as they do in *England*. The few Pears they have are large and pleasant, and Figs grow there as good as in *Spain*; but it is remarkable that neither Oranges nor Lemons will thrive there, though they will in more Northerly Countries. Cherries are as plentiful all over *Virginia* as they are in *Kent*, and the Trees are generally larger than in *England*, and bear more plentifully without digging about them, or pruning. The Woods abound in Vines, which twine about the Oaks and Poplars, and run up to the Tops. These bear a Kind of red Grapes, the Wine whereof is smaller than *French* Claret; but Mr. *Glover* is of Opinion, that if some of them were planted in convenient Vineyards, where they might be better exposed to the Influence of the Sun, and carefully kept and pruned, they would produce as good Grapes as the Claret-Grapes of *France*. There is also in the Woods a little Shrub with a Berry like that of our Elder, which is very pleasant to eat; and likewise a Tree call'd *Cbincopin*, which bears a Nut resembling a Chesnut, with a rough Husk, but much smaller.

ON the Sides of the Hills in *Virginia* grows plentifully a Species of *Asarum*, or black Snake-weed, the Roots whereof are brought over among the true *Serpentaria Virginiana*, and are promiscuously used with them, being diaphoretic and alexipharmic.—*Soldanella*, or Sea Scurvy-grass, is found in great Plenty on the Side
of

of the Bay. This Herb, being excellently calculated for discharging Water, contributes very much to the Cure of Dropsies and Scurvies; and it is likewise used in rheumatic Cases. It works very roughly, and much disorders the Stomach. — There grows likewise in *Virginia* an Herb call'd Dittany by some, and by others Pepperwort. It rises to the Height of twelve or eighteen Inches; its Leaves are very small and shaped like a Heart, which shoot out of the Stalk and Branches directly opposite to each other; and it smells hot, and bites the Tongue like Pepper. The distill'd Water of this Herb is an excellent Remedy against Worms, and an Ounce of it provokes Sweat plentifully.—Here are also found two Roots, supposed by the Physicians to be *Turbith* and *Mechoacan*, both strong Purgatives. Turbith purges tough serous Humours from the remote Parts, and is therefore of Service in the Dropsy, Gout, and Rheumatism. The Root of *Mechoacan* is used to purge pituitous, serous, and aqueous Humours from all Parts of the Body, especially from the Breast, and the Head and nervous System. That is to be chosen which is recent, white, and ponderous.—Our Author takes notice of another medicinal Plant, about a Foot and a half or two Feet high, whose Leaves are rugged like those of Borage, but longer, and its Berries when ripe are yellow. The *English* call it the *Fever* or *Ague-Root*; from its Service in those Distempers. A Dram and a half of this Root newly

taken out of the Ground, and infused in Beer and Water for twelve Hours, purges with great Violence; but a Dram of it in Powder only excites Sweat, and that but moderately. Its Taste is a little bitter, and therefore somewhat hot.

IN speaking of the Vegetables of *America* which make a Part of the *Materia medica*, we ought by no means to omit *Sassafras*, which is a yellow Wood, of a brisk aromatic Scent, the Produce of a Tree, whereof there are vast Numbers in *Florida*, and also in *Virginia* and other *English* Provinces. The Natives of *Florida* call it *Pahamwe*, and amongst us it has obtain'd the Name of *Fennel-Wood*, its Smell somewhat resembling that of Fennel. It is principally of Use in removing Obstructions and strengthening the internal Parts, in causing Fertility, and curing the Venereal Disease. It is reckon'd a sovereign Remedy for Catarrhs, and is esteem'd in the Gout, Sciatica, and Green-Sickness. In some Families it has of late grown into Fashion as a common Tea, which the Shavings of it make agreeable enough; but its Reputation of being good in venereal Cases is a Detriment to it, and prevents a great deal of Good which might otherwise be effected by using it more frequently.—Chuse that cover'd with the thickest Bark, reddish and rough, of a sharp Taste, and strong aromatic Smell.

IN *New Spain*, and several other Parts of the *West-Indies*, grow those Seeds we call *Vanillas*,
Vanel-

Vanilloes, or *Banillas*, which are used as an Ingredient in Chocolate, to which they give a pleasant Flavour; and they are also used to perfume Snuff and Tobacco. We do not find that they enter into any medicinal Compositions, though *Hernandez* says they are grateful to the Stomach and Brain, expel Wind, provoke Urine, resist Poison, and cure the Bites of venomous Animals.

UPON the Bark of a certain Tree growing in *Nova Scotia*, and the more Easterly Parts of *New England*, Mr. *Winthrop* says there are little Knobs containing a liquid Matter like Turpentine, of a very healing Nature. The same Gentleman mentions a Vegetable call'd *Silk-Grass*, the Pods whereof are full of a Sort of fine Cotton, which is used in stuffing Pillows and Cushions; but neither this nor the Down of Cotton-Trees, which grow tall and large, is fit to spin. At the Bottom of some of the Leaves, near the Stalk, there is a hollow Knob, breeding a Fly like a Pismire.

HERE we might enumerate many other vegetable Productions of the Northern Part of *America*, which are useful in Medicine, Dying, &c. but the Detail would be tedious and insipid; and therefore we shall finish this Article with the *Tulip-Tree*, which grows wild in several of our Colonies, and is a Curiosity that deserves to be mention'd. This Tree rises to a considerable Height, and produces a vast Number of Flowers, in Variety of Colours and

Shape resembling the Tulips in our Gardens, from whence its Name. It bears no Fruit, but when it is in full Bloom no Tree in the World appears more beautiful.

ANIMALS.

WE cannot begin this Article more properly than with the *Moose Deer*, which is thought to be peculiar to *North America*, and one of the noblest Creatures of the Forest. These Deer are found no where in greater Numbers than in *New-England*, and Mr. *Dudley* informs us there are two Sorts of them, viz. the common light-grey Moose, and the large or black Moose. The former, which the *Indians* call *Wampoose*, are more like the ordinary Deer, spring like them, and herd sometimes to the Number of thirty together. The black Moose, whose Hair is dark-grey, is shaped much like the common Deer, parts the Hoof, chews the Cud, has no Gall, his Ears large and erect, and has a very short Bob-Tail. These Deer are not so gregarious, not above four or five being found together. The Hunters in *New-England* have taken a Buck or Stag-Moose of the black Kind ten Feet and a half in Height from the Withers, and a Quarter of this Venison weigh'd upwards of two hundred Pounds. A black Moose-Doe or Hind of the fourth Year was kill'd within two Miles of *Boston*, which from the Nose to the
Tail

Tail measured between ten and eleven Feet, and was six Feet eleven Inches high. The Horns of the Moose, when full grown, are between four and five Feet from the Head to the Tip, each Horn having seven Shoots or Branches, and they generally spread about six Feet. When the Horns, which are shed every Year, first come out of the Head, they are round like those of an Ox, but about a Foot from the Head they begin to grow a Palm broad, and higher up still broader, so that the *Indians* make Ladles of them that will hold a Pint. When a Moose goes through a Thicket, or under the Boughs of Trees, he lays his Horns back on his Neck, not only that he may make his Way the easier, but to prevent his being scratch'd or hurt by the Wood. A Moose does not spring, or rise in going, as a common Deer, but rather shoves along side-ways; and when he is unharbour'd he will run a Course of twenty or thirty Miles before he turns about or comes to a Bay. He is not so swift as the common Deer, but will run longer; and when he is chased he usually takes to the Water. One of these large black Mooses has been seen, in his common Walking, to step over a Gate or Fence five Feet high.

THE Flesh of the Moose is excellent Food, and, though it be not so delicious as common Venison, it is more substantial, and will bear salting. The Nose of the Animal in particular is reckon'd a great Dainty; and Mr. *Dudley*, who

who eat several of them, says he found them to be perfect Marrow. The Skin of the Moose well dress'd makes excellent Buff, and the *Indians* make their Shoes of this Skin for travelling in the Snow. Their Way of dressing it is this: After they have hair'd and grain'd the Hide, they make a Lather of the Moose's Brains in warm Water; and after they have soak'd the Hide for some time, they stretch and supple it. Nor is the Flesh and Skin of the black Moose the only Parts of it that are serviceable, for even the Hair on the Ridge of his Back, which is ten or twelve Inches long, is made into good Belts by the *Indians*.—A Moose generally brings forth two young ones, which it is said to do standing, and the Young fall from the Dam upon their Feet.

THESE Creatures being very tall, and having short Necks, do not graze on the Ground like the common Deer, Horses, Cows, &c. and if at any time they eat Grass, it is the Top of that which grows very tall, or on the Side of a rising Ground. In the Summer they feed on Plants, Herbs, and young Shrubs that grow on the Land, but are most fond of Water-Plants, especially a Sort of wild Colts-foot and Lilly, which abounds in Ponds and by the Sides of the Rivers. For this Food the Moose will wade far and deep, and it is by the Noise they make in the Water that the Hunters often discover them. In the Winter they live by browsing on the Tops of Bushes and young Trees; and

and being very strong, as well as tall, they will bend down a Tree as thick as a Man's Leg. When the Browze fails them they will eat off the Bark of some Sorts of Trees as high as they can reach. They generally feed in the Night, and lie still in the Day*.

THE *Mexican Musk Hog*, so call'd from its Scent, is a remarkable Animal, found not only in *New-Spain*, but in several other Parts of the *American* Continent. Dr. *Tyson* had one which he had the Curiosity to dissect, and he describes it as much less than our common Hogs; for from the End of the Body where the Tail should be, if it had one, to the Top of the Head between the Ears, it measured only two Feet two Inches, and from thence to the Extremity of the Snout eleven Inches. The Compass of the Body was two Feet, that of the Neck sixteen Inches, of the Head in the largest Place eighteen Inches, and of the Snout twelve Inches; for the lower Jaw of this Hog was more protuberant, and the Head less tapering than in our Swine. Its

* To this Account of the *American* Moose-Deer it is proper to add an Observation of Dr. *Molyneux* in the *Philosophical Transactions*, who there-describe a large Pair of Deer's Horns dug up in *Ireland*, which from the Tip of the one to that of the other were ten Feet ten Inches wide. These

Horns he doubts not belong'd to a Moose; and from the Number of them found in several Parts of *Ireland*, he concludes that these majestic Deer were formerly as frequent in that Country, as they are now in *New England*, *Canada*, *Maryland*, and *Virginia*.

Body

Body was of a grizzly Colour, and beset with Bristles, which were thicker than those of a Hog, yet smaller than those of a Hedge-Hog, but resembling them, or the Quills of a Porcupine, and variegated with Rings of Black and White. The Belly was almost bare, and the Bristles on the Sides were short, but gradually increased in Length as they approached the Ridge of the Back, where some were five Inches long. On the Head between the Ears there was a large Tuft of these Bristles, which were mostly black. The Ears were about two Inches and a half long, and pricking up; and the Eyes, like those of Pigs, were small. The Snout was like that of a Hog, but the Mouth small; and one Side of the lower Lip was made smooth by the rubbing of the Tusk in the upper Jaw. The Feet and Claws were perfectly like those of common Hogs. It had no Tail, as was intimated above; but its greatest Peculiarity, and what distinguishes it from any other Animal, is the Navel or rather *Foramen* on the hinder Part of the Back. These Animals are usually found in the Woods and Mountains, and go in Herds together. They feed on Roots, Acorns, and Fruits; but as the greatest Dainty they hunt after all manner of Serpents and Toads, and having caught them, they hold them with their fore Feet, and with a great deal of Dexterity strip off the Skin with their Teeth from the Head to the Tail, and then greedily devour them. As an Antidote against the Poison they are said to eat.

eat the Bark of a certain Tree; and by this Sort of Food they thrive and become fat. They are naturally very fierce; and if one of them be wounded he presently gets to his Assistance a great Number of his Kind, and never desists till he is slain or has revenged the Injury. They are always at Enmity with the Tygers, and oftentimes the Body of a Tyger, and several of these Hogs are found dead together. If they spy a Man, they will attack him fiercely, and his best Refuge is to get up a Tree, which they will assault most furiously with their Teeth; nor will they easily leave him till they are call'd off by Hunger. When they are hunted they often tear the Dogs to pieces. Their Flesh is esteem'd very good, and is much coveted by the Natives. — Some Authors call this Animal *Tajacu*.

THE Peculiarity above-mentioned, call'd the Navel, seems to require a little closer Observation. It is situated just on the Ridge of the Back over the hinder Legs, and is so cover'd by the long Bristles there, that it cannot be seen without opening or separating them with the Hairs, and then you find a small Space almost bare, only beset with fewer, shorter, and finer Hairs. In the Middle of it is the Orifice of the Gland, by which it discharges itself of the Liquor it separates; and this Orifice has its Lips a little reflected and protuberant above the Surface of the Skin. Dr. *Tyson* found it would easily admit of a large Probe, which could be turn'd into several

ral Parts of the Gland ; and upon a gentle Pressure with the Fingers it emitted a small Quantity of a yellowish Juice, which yielded a very agreeable Scent, much like that of Musk or Civet. This Gland is of the conglomerate Kind, consisting of several other minute Glands. It has no considerable Cavity within it, but has several excretory Ducts, which terminating at last in one, discharges its secreted Juice by a common Orifice. This Orifice, having some Resemblance to a Navel, has imposed upon almost every Author that has written on this Animal, so far as to take it for a real Navel ; and others, who have not fallen into this Sentiment, have proposed Conjectures about it full as absurd and extravagant : But there is nothing, according to Dr. *Tyson*, to which it can be more fitly compared than to the Scent-Bags in other Animals.

WE have heretofore given some Account of the *Beaver*, and of its Bags or Purses containing a liquid Matter call'd *Castoreum*, of considerable Use in Medicine* ; but there are some other surprizing Particulars related of these Animals, which we promis'd to take notice of when we came to *Canada*, which Country abounds with them more than any other Part of the World. In the Memoirs of the *Royal Academy of Sciences* there is an Extract of a Letter from M. *Sarrafin*, the *French King's* Physician

* See Vol. II. p. 152—155.



The Industry of the Beavers of Canada



in *Canada*, concerning the Dissection of a Beaver. He says, the largest are three or four Feet long, and about twelve or fifteen Inches broad in the Chest and Haunches; that they commonly weigh about fifty Pounds; and that they usually live to the Age of twenty Years: But *Francus* says they live thirty or forty Years, and that he had heard of a tame one being kept seventy-eight Years. Dr. *Sarrafin* says farther, that a great way North the Beavers are very black, though there are some white; but those of *Canada* are commonly brown, and their Colour grows lighter as they are found in more Southern Countries.

THESE Creatures, according to the Accounts of Travellers, observe a wonderful Polity, and their Manner of living and building their Habitations shews an extraordinary Instinct implanted in them by the great Author of Nature. In order to raise themselves a convenient Abode, they chuse a low level Ground, water'd with a small Rivulet, where, by making Dams across it, they can form a Reservoir of Water and overflow the Ground. These Dams or Causeys are form'd by thrusting down Stakes five or six Feet long, and as thick as a Man's Arm, deep into the Earth; and these they wattle across with tender pliable Boughs, and fill up the Spaces with Clay, making a Slope on the Side against which the Water presses, and leaving the other perpendicular. One of these Dikes may be ten or twelve Feet thick at the Founda-

dation, and they raise it in Height proportionably to the Water's Elevation and Plenty. As they are sensible that Materials for building are not so easily transported by Land as by Water, they take the Opportunity of swimming, whenever they can, with Clay placed on their Tails, and Stakes of Wood between their Teeth, to every Place where those Materials are wanted. If the Violence of the Water, or the Footsteps of the Hunters who pass over the Work, should damage it in any Degree, they immediately visit all the Edifice, and with indefatigable Application repair and adjust whatever they find out of Order: But if they are too frequently disturb'd by the Hunters, they only work in the Night, or else discontinue their Labours.

WHEN the Beavers have compleated their Causey or Dike, they begin to form their Cells, which are round or oval Apartments, divided into three Partitions or Stories, raised one above another. The first is sunk below the Level of the Dike, and is generally full of Water; the other two are form'd above it. The Walls of these Houses are upright, and about two Feet thick; and they are always built in Stories, that in case the Water rises the Beavers may retire to a higher Situation. The Materials are the same as they use for the Dike; and as their Teeth supply the Place of Saws, they cut off all Projections that shoot out from the Stakes beyond the Perpendicular of the Wall; after which they work up a Mixture of Clay and dry
Grass

Grass into a Kind of Mortar, and by means of their Tails they lay it over the Building both within and without. They likewise drive Stakes into the Earth to fortify the Structure against the Winds and Water; and at the Bottom they strike out two Openings to the Stream, one of which leads to the Place where they bathe, and the other is a Passage to that Quarter where they carry out every thing that would soil or rot the upper Apartments. There is a third Aperture much higher, calculated to prevent their being shut up when the Ice hath closed the Openings into the lower Lodgments. The Dimensions of their Houses are proportion'd to the Number of the intended Inhabitants, twelve Feet in Length and ten in Breadth being found sufficient for eight or ten Beavers; and if the Number increases, they enlarge the Building accordingly. It has been asserted for Truth, that there have been found above four hundred of these Creatures in different Apartments communicating with one another; but these populous Societies are very rare, because they are too unmanageable, and the Beavers are generally better acquainted with their own Interests. They associate to the Number of ten or twelve, and sometimes a few more, and so pass the Winter together in a very agreeable Manner.

THERE are some Beavers call'd *Terriers*, which burrow in the Earth, beginning their Hole at such a Depth under Water as they are sensible it will not freeze at; and this they

carry on for five or six Feet, just big enough for them to creep through. Then they make a Bathing-Place three or four Feet square, from whence they continue the Burrow, always ascending by Stories, that they may lodge dry as the Water rises. Some of these Burrows have been found to be a hundred Feet in Length. — This is Dr. *Sarrafin's* Account of the Terriers, but others say they begin their Burrow on the Land, and having dug downwards to a proper Depth, they then dig horizontally till they come to the Water.

THE Beavers of *Canada* have generally completed all their Works in *August* or *September*, after which they furnish themselves with Provisions for the Winter. During the Summer they regale themselves with all the Fruits, Plants, and Roots the Country produces; but against Winter they lay up a Stock of Wood, which they feed upon after steeping it in Water, and this in Quantities proportionable to their necessary Consumption. They gnaw off Twigs and Branches from the Trees, of which the large ones are convey'd to the Magazine by several Beavers, and the smaller by a single one; and it is observ'd that they take different Ways, each having his Walk assigned him, that they may not interrupt one another in their Labour. The Dimensions of their Pile of Wood are regulated in Proportion to their Numbers, and we are told that one of twenty-five or thirty Feet square, and eight or ten Feet high, is the usual

usual Provision for eight or ten Beavers. When the Wood is soak'd in Water, they gnaw it into small Pieces, and convey it to their Cells, where it is regularly divided amongst them. Sometimes they expatiate in the Woods, and regale themselves and their Young with a fresh Collation; for they love green Wood better than that which is old and wither'd: And the Hunters, sensible of this, place a Parcel of the former about their Habitations, and then have several Devices to ensnare them. When the Winter is severe, and the Water frozen over, the Hunters sometimes break the Ice, and when the Beavers come to the Opening for the Benefit of the fresh Air, they kill them with Hatchets; or else they cover the Aperture with a strong Net, and then overturn their Lodge, upon which the poor Animals thinking to escape by betaking themselves to the Water, and emerging at the Hole in the Ice, fall into the Snare and are taken.—Many other Things are related concerning the Sagacity and Industry of these Creatures, the Strength and Beauty of their little Cities, of the Wars which one Canton wages against another, and of their putting the most laborious Part of their Work upon those they take Prisoners, &c. All which, though seemingly well attested, are yet look'd upon by the Generality as too much exaggerated to deserve any Credit.

THERE is another Animal common enough in several Parts of *America*, call'd a *Musk Rat*,

which is exactly shaped like our Water-Rat, only somewhat larger. These Creatures build Houses as the Beavers do, in Marshes by the Water-side, with two or three Ways to them; and the Inside of them is neatly plaister'd. They consist of three Stories, so that the Rats ascend from one into the other as the Water rises. In short, they are in all Respects Beavers in Miniature, and therefore any farther Account of them is unnecessary.

IN *North-America* we meet with several Kinds of Squirrels, particularly one call'd the *Ground-Squirrel*, which is little larger than a Mouse, and is finely spotted like a young Fawn. It is a Sort of Dormouse, only different in Colour.—Those call'd *Fox-Squirrels*, which are much larger than the *English* Squirrels, are very numerous in *Virginia*. They are almost as grey as a common Rabbet, and are reckon'd as good Food.—But one of the greatest Curiosities of *Virginia*, tho' it cannot be said to be peculiar to that Country, is the *Flying Squirrel*, so call'd from its being provided with a Skin that can be expanded from each Side like a Sail, and greatly assists it in leaping from one Bough to another; inso-much that though it is smaller than the Fox-Squirrel, and even than the least of our Squirrels in *England*, it can jump much farther. *M. Klein* tells us, that in the Year 1727 two of these flying Squirrels were brought alive to *Warsaw*, and presented to *Augustus II.* King of *Poland*. The King's Physician examin'd one
of

The Flying Squirrel





of them when dead, and caused its expanded Body to be delineated; from a View of which, as represented in the Plate, the Reader will form a better Idea of the Animal, than from a verbal Description. In the Year 1728 M. *Klein* had one of these Squirrels given him, which was taken in the Woods on the Confines of *Russia*, and was much less than the common Squirrel. Its Skin was very soft, of a beautiful dark-grey Colour, and its Eyes were large, black, and prominent. It had small Ears and very sharp Teeth; but, tho' most of them are mischievous enough, this was pretty gentle, and would not bite unless it was provoked. They fed it with Bread baked without Salt, but the fresh Tops of Birch were its favourite Food, it neither caring for Nuts nor Almonds. The little Creature made its Bed in an elegant Manner of the Moss of the Birch, in which it would lie buried as it were, and not stir from thence in the Day-time, unless disturb'd or thirsty. As to the Membrane which may be call'd its flying Instrument, it might be expanded from each Side about the Breadth of a Palm, and adhered to the Bending of the hinder Feet, but was connected with the fore Feet by a bony Articulation. Upon the Whole, M. *Klein* concludes, that this Animal does not properly fly*, but that it can leap

* Such Animals are properly call'd *flying* as roam about freely in the Air, and not such as only leap with Agility from one Tree to another. Nay, it has been from

from Place to Place with greater Ease than other Squirrels, and by means of its Sails continue longer in the Air.

THE Consideration of the flying Squirrel naturally leads us to take a View of some of the feather'd Race, whom Nature has furnish'd with Wings that enable them to expatiate in the Air, that is, to *fly*, in the true and proper Meaning of the Word. Of all this Tribe here is none more deservedly admired than that curious and beautiful little Animal call'd the *Humming-Bird*, of which there are several Species, to be met with in most Parts of the *American* Continent, as well as in many of its Islands. The smallest Sort of Humming-Birds, according to Mr. *Smith*, is considerably less than a Wren; and according to all Accounts, it is the least Bird in the World. Mr. *Hamerfly* (in *Phil. Trans.* N^o 200.) tells us, that the Leg and Foot together are but half an Inch, and the whole Body not quite an Inch in Length. Upon weighing one as soon as it was kill'd, it was found to be only the tenth Part of an Ounce *Avoirdupois*, which is much about the Weight

much doubted by some, whether there is any such Thing in Nature as a flying Quadruped; but the common Bats put the Matter out of Dispute, to say nothing of the *Dracunculi* preserv'd in several Museums. — Something

like the flying Squirrel, or perhaps the same, is the *Felis Volans* (or flying Cat) of *Scaliger*; and of the same Nature, but larger, is the *Vespertilio admirabilis* (the wonderful Bat) of *Bontius*.

of a Sixpence; whereas a Titmouse, the smallest Bird in *England*, weigh'd above two Shillings. The same Gentleman tells us, that its Eggs are about the Bigness of a Pea; and Mr. *Wintborp*, who weigh'd two of them, found one to be about five Grains, and the other only three and a half. As to its Colours, they are various and surprizingly beautiful, though the Bird is differently described by different Authors. *De Laet* represents it as having all the Colours of the Rainbow, the Ends of the Wings being of a golden Colour, as also its Belly; the Sides green as an Emerald, with a green Tuft of Feathers on its Crown, a Circle round its Neck as red as a Carbuncle, the Bills and Legs black as Jet, and the Eyes like Diamonds. Mr. *Smith* says, its Colour is like that of a Peacock's Neck, in that Part where the black Ground is finely ornamented with a glistening greenish Blue; and Mr. *Hamerfly* describes it to be of a shining green Colour, somewhat resembling the Head of an *English* Drake.—But though Authors differ a little in their Descriptions of the Humming-Bird, all agree that its Plumage is extremely beautiful.

It is natural to suppose this little Creature obtain'd its Name from the humming Noise it makes in its Flight, almost like that of a Spinning-Wheel, occasion'd by the swift Motion of its Wings; and yet Mr. *Hamerfly* says, he never observ'd any such Thing. It is a solitary Bird, no more than two being seen together at a time,

viz.

viz. the male and female; and they are easily distinguishable, the former being somewhat bigger than the latter. They feed by thrusting their slender Bill and Tongue into the Blossoms of Trees and other Flowers, from whence (like Bees) they extract the sweet Juices; and this they do upon the Wing, hovering over the Flower without perching. They can fly very swiftly; and Mr. *Smith* tells us he has known one of them give Chase to a Hawk, though he imagines the diminutive Size and Agility of the Bird were its only Protection. Some Writers however represent the Humming-Bird as formidable to the Hawk on account of his sharp Bill, which is as fine as a Needle, and with which he pierces the Sides of his Enemy, clinging fast to him with his little Talons: But this we apprehend is fabulous.—The Nest of the Humming-Bird is curiously contrived, being made of Cotton-Wool, in Form and Bigness like the Thumb of a Man's Glove, and usually built at the Extremity of the Branches of the Tamarind or other Trees. These Birds are seldom seen on the Ground, but fly about the Gardens from one Flower to another. They are seen only in Summer, and are very difficult to keep alive for want of their natural Food; though Mr. *Clayton* says they have been kept, and fed with Water and Sugar.

THE next Curiosity among the feather'd Inhabitants of *North America* may be reckon'd the *Mocking-Bird*, so call'd from its imitating the

the Notes of all other Birds, which, with the many charming ones of his own, make him accounted the finest singing Bird in the World. There are two Sorts of them, the grey and the red, both about the Size of a Thrush; but the former is most esteem'd, as having the softer Note. Its Feathers are much of the Colour of our grey Plovers, with White in the Wings like a Magpye; and its Postures in flying are very odd, sometimes with its Tail upright and its Head down, and sometimes the contrary. It is a brisk bold Bird, and yet seems to be of a tender Constitution, neither singing in Winter, nor in the Middle of Summer, and with much Difficulty are any of them brought to live in *England*. It sings not only by Day, but also at all Hours of the Night on the Tops of Chimneys.

THERE are two Sorts of *Virginia* Nightingales, or *Red Birds*, the one with a Tuft on his Head, the other quite smooth-feather'd. The Cocks of both Species are of a pure Scarlet, and the Hens of a duskyish Red.—In the same Country they have a Bird call'd a *Blue Bird*, being of a beautiful azure Colour, and about the Bigness of a Chaffinch; and they have several Sorts of Goldfinches, finely variegated with red, orange, and yellow Feathers.—There is another Bird very injurious to Corn, call'd a *Black-bird*, being as black as a Crow, only some of them have scarlet Feathers in the Pinions of their Wings. They seem to be a Sort of Starlings,

lings, for they cry like them, but do not sing, and are much of the same Bigness.—The *Jay* of *Virginia* is less than our *English Jay*, and the Body of it is blue, whereas ours is brown. Its Wings are curiously marbled, as those of ours are; and it has the same Cry, and sudden jetting Motion.—In their Woodpeckers there is great Variety; one Species of them is as big as a Magpye, with blackish brown Feathers, and a large scarlet Tuft on the Top of the Head; besides which there are four or five Sorts more, some with green, yellow, and red Heads, and others spotted red and white in a very beautiful Manner.

In *Virginia*, Mr. Clayton informs us, there are three Sorts of Eagles; the largest of which they call the *grey Eagle*, being much of the Colour of our Kite or Glead; the second is the *bald Eagle*, so call'd because the Body and Part of the Neck and Head are only cover'd with a whitish Sort of Down; and the third is the *black Eagle*, much resembling those of our own Island. These generally build their Nests on the Top of some tall old Tree, stripp'd of its Boughs, and near the Side of a River; and the People usually fell the Tree when they take the Young. When the Eagle observes that the Fishing-Hawk hath struck a Fish, he takes Wing immediately, and pursues the Hawk, which Chace affords the Spectator an agreeable Entertainment; for as soon as the Hawk perceives himself pursued, he screams and makes a terrible

rible Noise, till at length, in order to save himself, he drops the Fish, which the Eagle frequently catches before it reach the Earth or Water. These Eagles kill young Lambs, Pigs, &c.—The *Fishing-Hawk* is a Species of the King's-fisher, and much resembles that Bird in Shape and Colour, though it is larger, and not quite so curiously feather'd.

SEVERAL Sorts of Owls are found in *Virginia* and our other Colonies, particularly brown and white Owls, which are as large as a Goose, and often kill Hens and other Poultry in the Night. The white Owl has a delicate Plumage, the Feathers on the Breast and Back being white as Snow, and tipp'd with a jet Black.—They have likewise a large ravenous Kind of Bird, that feeds on Carrion, almost as big as an Eagle, call'd a *Turky-Bustard*, having red Gills resembling those of a Turkey, from whence its Name. It seems to be a Species of the Kite, hovering on the Wing like that Bird, and being carnivorous. Its Fat, dissolved into an Oil, is much recommended in the *Sciatica*, and any old Aches and Pains.—Nor ought we to forget their wild Turkeys, which are remarkable for their Size, some of them weighing fifty or threescore Pounds. Their Legs are very long, and they run exceeding swiftly. Their Feathers are of a blackish shining Colour, resembling those of a Dove's Neck when view'd in the Sun-shine.—They have also several Sorts of Herons, one larger than the *English*, and feather'd like a

Goose; and there is another Species which come only in Summer, and are Milk-white, with beautiful red Legs.—Add to this, that their Cocks and Hens are for the most part without Tails and Rumps; and those of the *English* Fowls rot off, after they have been some time in the Country.

Mr. Clayton tells us, that they have several Sorts of Frogs in *Virginia*, and one in particular of a prodigious Size, being eight or ten times as big as any in *England*. It makes a Noise like the lowing of a Bull, or the hollow Sound of a Bittern. There is another small Sort of Frog, says our Author, which during the Spring makes a Noise like Pack-horse Bells; and a third Sort, which is green, and will take surprizing Leaps, on which Account it is call'd the *flying Frog*.—Besides the Rattle-Snake, of which we have spoken sufficiently already, they have one call'd the *Blowing Snake*, which is a Sort of Viper, and has its Name from its blowing and distending its Head before it bites. Its Poison, without a speedy Remedy, is mortal; and there is another dangerous Kind of Snake call'd the *Red Snake*, being of a dark-brown Colour inclining to Red. Their Bellies are of a dusky White, with a Streak of Red on each Side.—The *Horn-Snake* is another remarkable Species, so call'd from a Horn on its Head, with which it gives a Wound as mortal as the Bite of the Rattle-Snake.—That call'd the *Corn-Snake*, from its being frequently found in Corn-Fields,

Fields, is much like the Rattle-Snake in Colour, but the Chequers are not so regular, nor is its Bite venomous.

AMONGST the curious Animals of *North-America* we may reckon the little Insect which affords that valuable Drug call'd *Cochineal*, of great Use in dying Crimsons and Scarlets, and esteem'd in Medicine as a Cardiac and Alexipharmic. Naturalists have been strangely divided with respect to the Origin of *Cochineal*, some referring it to the Vegetable, and others to the Animal Kingdom; to which last it is now proved to belong by incontestable Evidence: For a Dispute arising between *Melchior de la Ruuscher* and a Friend of his on this Subject, the former procured from *Antequera* in *New Spain* (the Place where there is the greatest Trade for this Drug) the Attestations upon Oath of eight Persons, who had been for many Years immediately employ'd in managing and propagating *Cochineal*, from whence we learn the following Particulars. First, that they are small Animals, with a Beak, Eyes, Feet, and Claws; that they creep, climb, seek their Food, and bring forth Young, without that Transformation observable in Silk-Worms and other Insects. When they first begin to move they are no larger than Nits or small Mites, or the Point of a Needle, but when come to Maturity they resemble a Dog's Tick both in Size and Figure. Thus far is certain, but the Manner of their Generation is doubtful; though it

is commonly believ'd by those who cultivate them, that they are impregnated by a small Butterfly, which is bred upon the *Nopal*, (the Plant they feed upon) and which is observ'd to pass and repass over them frequently.

WHEN these little Animals can bear the open Air, which is early in the Spring, they soon grow large enough to produce young ones; at which Time they put twelve or fourteen together into a Pastle or little Nest, made of fine soft Hay or Straw, or the Moss of Trees, or the Down that immediately encompasses the Cocoa-Nut. These Nests are placed upon the *Nopal*, or prickly *Indian* Fig-tree, which is carefully cultivated for this Purpose; and in three or four Days a great many young ones are produced, after which the old ones die. The young ones, coming out of their Nests, climb up the *Nopal*, fix themselves to it, and suck its Juice, which is their only Nourishment, for they do not eat the Plant; and therefore they seek out those Parts of it that are greenest and fullest of Juice, taking care to place themselves so as to be screen'd from the Wind and Weather. During this Time, whilst they are growing up and become pregnant, great Care is taken that no Vermin incommode or kill them, and also to keep them clean, and disengage them from certain Threads like Cobwebs, that grow upon the *Nopal*. They are likewise to be shelter'd from too much Heat or Cold, and from the Rain and Wind, for the finest of these In-

sects

fects are very tender. The wild Sort indeed bear all these Inconveniencies; but then they are gritty, of an ill Smell, and of little Value.

As to the gathering of Cochineal, they first take the Females, which die in the Nests, after having brought forth their Young; and three or four Months after this, as the Season permits, when the first young ones are become large enough to bring forth, and have produced some few, the *Indians* carefully gather them off the *Nopal* with a small Brush like a Pencil. Being thus collected the little Creatures are kill'd by hot Water or Fire, and are call'd the second Gathering, or rather the first of the young ones that have been nourish'd and raised in the open Air. In three or four Months more they gather the second Brood of those that have been brought forth upon the *Nopal*, and have likewise produced some young ones; which is done much in the same Manner as before, only now they take from the Plant a great many young ones with their Parent Insects; and from the Number of small ones found amongst this Gathering of Cochineal, it is call'd *Granilla*. In the mean time they keep a Number of these young ones alive upon the *Nopals*, which they pluck up or cut down, and take them into their Houses, in order to nourish the Insects during the rainy Season. Lastly, when these are grown large, they put them into the Pastles, and proceed in the Manner above related; so

that they usually make three Gatherings in a Year.

THEY have two Ways of killing these Insects, either in hot Water, or in little Ovens made for that Purpose; and some People kill them by roasting them upon flat Stoves with Fire under them, such as the *Indian* Women use to bake their Bread. These three different Methods give the Cochineal three different Colours. The first makes it of a brown Red, the hot Water taking off the Whiteness that covers the Insect when alive. The second makes them of an Ash-Colour, and marbled; and the third makes them black as if they had been burnt.—Of the old ones that die after bringing forth their Young, four Pounds, when dried, produce but one, or rather one Pound is reduced to four Ounces: But three Pounds only of the living ones, that have been carefully taken off the *Nopals*, being kill'd and dried, produce the same Quantity.

THIS is the Substance of the Attestations above-mention'd, which contain several Circumstances before unknown in *Europe*; and hence the Curious may be assur'd of the Truth of a Thing which for many Years was a Matter of Uncertainty, and understood only superficially by those who allow'd that Cochineal was really little Animals. That there may always be a standing Proof of these Facts, the original Attestations, confirm'd by the Certificates of
three

three Magistrates and three publick Notaries, are deposited among the Registers of the *Royal Society*.

HOWEVER, it seems proper to observe, that though Cochineal is now known to be produced by an Animal, there is a Berry growing in *America* which yields a Dye almost as beautiful as that of the Insect. The first Shoots of the Tree produce a yellow Flower, then comes the Fruit, which is long, and opens when ripe with a Cleft of three or four Inches. This Fruit is full of Kernels or Grains, which fall on the least Agitation, and are carefully gather'd by the *Indians*. Eight or ten of these Fruits will yield about an Ounce of Grain; and a Person may easily take it for the animal Cochineal, but this last is much the most esteem'd.

As we are now speaking of Insects, it may not be amiss to introduce here an Account of a Method in *New England* of discovering the Hives or Nests of Bees in the Woods, in order to get their Honey. For this End the Hunter (as we may call him) in a clear sun-shiny Day takes a Plate or Trencher with a little Sugar, Honey, or Molasses, and when got into the Woods he sets it down on a Rock or Stump of a Tree. This is soon found out by the Bees, which are generally supposed to smell Honey or Wax at above a Mile's Distance. When they are gather'd about the Plate, and have fed a little while, the Hunter secures a few of them in a Box or other Conveniency, and after a short
Time

Time he lets one of them go, observing very carefully the Course he steers; for after he rises in the Air he flies directly on upon a strait Course to the Tree which contains the Hive or Nest. Now the Hunter being provided with a Pocket-Compass, a Rule and other Implements, with a Sheet of Paper, he sets down the Course of the Bee, supposing it West, or any other Point; and by this he is sure the Tree must be somewhere in a West Line from his Station: But to know the exact Distance he removes from thence either North or South, suppose a hundred Perches, or if it be more, it will be the more exact, because the Angle will not be so acute. He then lets go another Bee, observing his Course also very carefully; for this, like the first, after mounting to a convenient Height, flies directly to the Hive; so that the Hunter has nothing to do but to find where the Courses of the first and second Bee intersect each other, and there is the Tree where the Honey is lodged.

ALL this is founded on the strait or direct Motion of Bees when bound home with their Honey, which is found to be certain by the constant Observation and Experience of the Hunters, who of late have used this mathematical Way of finding Honey in the Woods with great Success. But it is worth observing, that all the Bees they have either in their Gardens or Woods, which are now in great Numbers, are the Produce of such as were carried from *England*

land about a hundred Years ago; for the first Planters in *New-England*, as Mr. *Dudley* informs us, never observ'd a Bee in the Woods till many Years after the Country was settled: And what proves this beyond Dispute is, that the *Indians* have no Word in their Language for a Bee, as they have for all Animals that are Natives of the Country, and therefore used to call a Bee by the Name of the *Englishman's Fly*.

LET US NOW take a View of some of the Inhabitants of the Waters, both of the Seas and Rivers, belonging to the Northern Part of the *American* Continent: And amongst these we shall scarce find any more remarkable than an Animal described by Mr. *Glover* in his Account of *Virginia*, publish'd in the *Philosophical Transactions*. This Gentleman tells us, that in the River *Rapabannock* he saw a strange Creature, much resembling a Man, but somewhat larger, standing upright, with his Head, Neck, Shoulders, Breast and Waist above Water. His Skin was tawny, much like that of an *Indian*; the Figure of his Head was pyramidal, without Hair; his Eyes large and black, as were also his Eye-Brows; his Mouth was very wide, with a broad black Streak on his upper Lip, turn'd upwards like Mustachoes; and his Countenance was grim and terrible. His Neck, Shoulders, Arms, Breast, and Waist were like those of a Man; but his Hands, if he had any, were under Water. He seem'd to stand with his Eyes fix'd
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for some time on Mr. *Glover*, and then plunged down, rising again soon after at a somewhat farther Distance. He then turn'd his Head again towards our Author, and sinking a little under Water he swam so near the Surface, that Mr. *Glover* could observe him throw out his Arms and gather them in as a Man does in swimming. At last he plunged his Head downwards, by which means his Tail appear'd above Water, which exactly resembled that of a Fish, with a broad Fin at the End of it.—This Creature seems to be the *Mermaid* or *Merman*, supposed to be half human and half a Fish, the Reality of which many Persons have doubted; but their Existence is too well attested to be denied*.

WE have long ago describ'd the Whales that are found in the Seas of *Greenland*, and the Method of taking them†; but there are several curious Particulars relating to those found on the Coast of *New-England*, which Mr. *Dudley* has obliged us with, and which ought by no means to be omitted. There are several Sorts of Whales on this Coast, of which the most remarkable are the true Whale, or that which yields the Whalebone, and another which furnishes us with the *Sperma-Ceti*. The Whalebone-Whale is sixty or seventy Feet long, (for these are not so large as those of *Greenland*) and very bulky, having no Scales, but a soft smooth

* See Vol. II. p. 17.

† See Vol. II. p. 87—92.

Skin, and no Fins, except one on each Side, from six to eight Feet in Length, which they are not observ'd to use, unless in turning themselves, and while they are young, and are carried by their Dam on the Flukes of their Tails; for then with those Fins they clasp themselves round about her, otherwise they would be in Danger of falling off. This Fish, when first brought forth, is about twenty Feet long, and of little Value, but then the Dam is exceeding fat. At a Year old, when they are call'd *Short-Heads*, they are very fat, so as to yield about fifty Barrels of Oil; but by that Time the Dam is very poor, and will not yield above thirty Barrels, though of a large Size. When two Years old they are call'd *Stunts*, being stunted after Weaning, and then generally yield from twenty-four to twenty-eight Barrels. After this they are call'd *Scull-fish*, their Age not being known, but only guess'd at by the Length of the Bone in their Mouths. This grows on each Side of the upper Jaw, and is sometimes six or seven Feet in Length. A good large Whale has yielded a thousand Weight of Bone, a hundred and thirty Barrels of Oil, and near twenty out of the Tongue alone.

THE Whale producing *Sperma Ceti*, or *Par-mesitty*, as it is commonly call'd, is much of the same Dimensions with the former, but is of a greyish Colour, whereas the others are black. He has a Bunch on his Back as big as a Man's Head, and is distinguish'd from the former Kind.

Kind of Whale by having no Whale-bone in his Mouth, instead of which there are Rows of fine white Teeth in each Jaw, five or six Inches long. Our Author sent the *Royal Society* one of these Teeth, taken from a Whale forty-nine Feet long, and whose Head yielded twelve Barrels of *Sperma-Ceti* Oil. These are more gentle than the other Species of Whales, and seldom fight with their Tails, but, when struck, usually turn upon their Backs and fight with their Mouths. The Oil made of the Body of this Fish is much clearer and sweeter than that of other Whales.

THE *Sperma-Ceti* Oil, as our Author calls it, which makes this Fish so valuable, lies in a large Trunk four or five Feet deep, and ten or or twelve Feet long, near the whole Depth, Breadth, and Length of the Head, in the Place of the Brains, and seems to be the same, it being disposed in several membranous Cells, and cover'd with a thick gristly Substance below the Skin, through which they dig a Hole, and take out the clear Oil. It is found indeed in other Parts of the Fish, but not in so large Quantities nor so good as in the Head, where it is thoroughly prepared by Nature; and it is affirm'd that this Trunk or Cavity will yield from ten to twenty Barrels, and the whole Fish from twenty to fifty Barrels of the common Oil.

THE Ancients were great Strangers to the Origin of the *Sperma-Ceti*, insomuch that *Schroder*

der seems to doubt whether to reckon it an animal or mineral Substance. And indeed the Method of preparing it at present is a Secret in the Hands of a few Persons, according to *Pomet*, who describes the Process to be as follows. The Oil or Brain being taken out of the Animal is melted over a gentle Fire, and put into Moulds like those wherein Sugar-Loaves are form'd. When cold and drained it is melted over again; and in this Manner they proceed till it be well purified, and become very white. Then with a Knife, made for that Purpose, it is cut into Scales or Flakes, such as we have it from the Druggists. Now *Pomet* may possibly be right as to the Process generally used, but Dr. *James* says he has seen *Sperma-Ceti* which has undergone no Treatment at all, except being put into Paper-Bags, so that the Oil that adheres to it might be absorb'd.

THE true *Sperma-Ceti* is very white, and in very small Flakes, which by rubbing upon the Hand dissolve into a Sort of Oil, and do not adhere to the Palate when chew'd, as the common Sort will, which is probably adulterated with Wax or some other Substance. In many Cases *Sperma-Ceti* is a noble Medicine, but principally used in Bruises, inward Hurts, and after Delivery. It is an excellent Balsamic in Disorders of the Breast; and in Coughs, sharp Rheums, &c. it is very safe, pleasant, and effectual; as also in Pleurifies and inward Imposthumations. Outwardly used it is emollient

and healing; but its greatest Use this Way is in the Small-Pox, melted with the Oil of Almonds. With this the Pustules are just kept moist when they begin to harden; and it wonderfully prevents those Scars they are apt to leave behind them. It is sometimes also used as a Cosmetic by the Ladies, both in Paints and Washes; and Candles are likewise made of it, which are superior to the finest Wax-Candles in Colour and Lustre.

THE People of *New England*, says Mr. *Dudley*, used formerly to kill the Whales near the Shore; but now they go off to Sea in Sloops and Whale-boats, in *May*, *June*, and *July*, between *Cape Cod* and *Bermudas*, where they lie by in the Night, and sail to and again in the Day-time, and seldom miss of them. The best Season for taking the Whale-bone Kind is from the Beginning of *February* to the End of *May*, and for the *Sperma-Ceti* Whale from the Beginning of *June* to the End of *August*.—The Boats they use in pursuing the Whale are made of Cedar Clap-boards, and are so very light that two Men can easily carry them, though they are twenty Feet long, and contain six Men, *viz.* the Harpooner, four Rowers, and the Steersman. These Boats run very swiftly, and by reason of their Lightness can be readily brought on and off, and so kept out of Danger. Sometimes the Whale is kill'd with a single Stroke, and sometimes will hold the Whalemén in play for half a Day together, and even make their
Escape

Escape after they have been lanced and spouted Blood, which is a Sign they have received their mortal Wound. The Bone-Whales have two Spout-holes, but the *Sperma-Ceti* Whales have only one.

THE prodigious Strength of the Whale lies chiefly in his Tail, of which Mr. *Dudley* and other Authors give us Variety of Instances. A Boat has been cut down from Top to Bottom with the Tail of a Whale, as if cut with a Saw, the Boards being scarce splinter'd. An Oar has been cut off while a Man had it in his Hand, without feeling the least Jarring.— But one Instance of the Strength of this Animal, as related by Mr. *Dudley*, will be sufficient, instead of many that might be added. Some Years ago one of the Fin-back Whales, a Species found on the Coast of *New-England*, came into a Harbour near *Cape Cod*, and towed away a Sloop of about forty Tons out of the Harbour into the Sea. It is supposed the Whale was rubbing herself against the Fluke of the Anchor, or accidentally got the Fluke into the Orifice of the *Uterus*, and, finding herself caught, tore away with such Violence, that she tow'd the Ship out of the Harbour as fast as if it had been under Sail with a good Gale of Wind, to the Astonishment of the People on Shore, for there was no body on board the Vessel. When the Whale came into deep Water she plunged downwards, and had like to have carried the Sloop along with her; but the Cable

gave way, and so the Sloop was recover'd and brought back into the Harbour. This Whale was found dead some Days after upon the Shore, with the Anchor sticking in her Belly.

THE Whale-bone Whales are generally supposed to live upon some oozy Matter they suck up from the Bottom of the Sea; but an experienced Fisherman told Mr. *Dudley*, that he had observed this Whale, in still Weather, skimming on the Surface of the Water, to take in a Sort of reddish Spawn that sometimes lies on the Sea for a Mile together. The *Sperma-Ceti* Whale, besides other Fish, feeds much upon a small Fish, which has a Kind of Bill, and is call'd by the Fishermen a *Squid-fish*. The Fin-back Whale, which has a larger Swallow than the other Species, lives on Mackarel, Herrings, and such Sort of Fish, great Shoals of which he will run through, and with a short Turn cause an Eddy or Whirlpool, whereby the Fish are brought into a Cluster, and the Whale will take in some hundreds of them at a time.—It is to be noted, that though Whales are gregarious, and are sometimes seen a hundred in a Company, the several Kinds do not mix with one another, but keep by themselves.

IN speaking of the Whales of *Greenland* we observ'd, that these Animals copulate much like Quadrupeds, bring forth their Young alive, and suckle them with their Milk*; and this is con-

* See Vol. II. p. 89.

firm'd by Mr. *Dudley's* Account of the *New-England* Whales, which are therefore term'd *Bull, Cow, and Calf*. When the Female couples with the Male she throws herself upon her Back, sinking her Tail, and so the Male slides up, and then she clasps him with her Fins. They bring forth but one at a time, and only every other Year, and are supposed to go with Young about nine or ten Months. The Calf or young Whale has been found perfectly form'd in the Dam when not above seventeen Inches long, and white; but when brought forth it is usually twenty Feet long, as already mention'd, and of a black Colour. The Female has two Teats, six or eight Inches long; and when she suckles her Young she turns herself almost upon her Back, upon the Surface of the Water. Her Milk is white, and upon opening a young sucking Whale it has been found curdled in his Bag, just like that of a Calf. For the first Year they all suck the Dam, but live, after they are weaned, in the Manner above related.

THE Care the Females take of their Young is very remarkable. They not only carry them on their Tails, and suckle them, but often rise with them to the Top of the Water for the Benefit of the Air, and when they are chased they will not strike with their Tail; but if the young one happens to drop off, the Dam turns about, and passing underneath takes it on again. If their Young be ever so much wounded, as

long as they perceive any Life in them they never forsake them ; and therefore Care is taken, by those who kill these Fish, only to fasten the young one, and not to kill it, till they have first secured the Dam ; for if the young Whale be kill'd first, the Dam grows so outrageous that it is almost impossible to manage her. When pursued they will keep under Water for half an Hour or more ; but if a Female have a young one on her Tail, she rises oftner, that it may take Breath ; otherwise, when not disturb'd, they usually rise and blow about once in a Quarter of an Hour, spouting out Water, and drawing in fresh Air.

MR. *Dudley* farther informs us of a Sort of Fish that prey upon Whales, often killing the young ones, though they seldom venture upon the old ones unless they are much wounded. The Whale-men of *New-England* call these Fish *Whale-killers*, for they go in Company by Dozens, and will set upon a young Whale and bait him like so many Bull-Dogs, some laying hold of his Tail, others of his Head, and so bite and worry him, till being heated he lolls out his Tongue, which some of them are sure to catch at ; but if they miss their Aim, they fasten on his Lips, and thus torture him till they have kill'd him. When they have done this they feed chiefly on his Tongue and Head, but leave him when he begins to putrify. These *Killers* are from twenty to thirty Feet long, and have Teeth in both Jaws that lock within each other.

They

They are of such vast Strength, that when several Boats together have been towing a dead Whale to Shore, one of them has fasten'd his Teeth in it, and dived with it in an Instant to the Bottom.

BEFORE we dismiss this Subject it seems proper to add Mr. *Smith's* Account of the *Sword-Fish** and *Thrasher*, two allied Enemies of the *Grampus*, a Species of Whale frequenting the Seas of *North-America*. He says he has often been an Eye-witness of the Battles between these Allies and their common Enemy the *Grampus*, who as naturally encounter each other when they meet at Sea, as the Elephant and Rhinoceros do at Land. The *Sword-Fish* gets underneath the *Grampus*, and pricks him in the Belly, till he rises to the Surface of the Water; and then the *Thrasher* mounts his Back, and beats him sharply with his Tail. Our Author was once within less than a hundred Yards of a Fight between these Creatures, and assures us they caused the Spray of the Sea to fly up very violently all round them; but, to the best of his Discernment, the *Thrasher* seem'd to fight with a Weapon about three Yards long, like a monstrous Broad-Sword, issuing from his Nose, and not with his Tail, as is commonly reported.

* See a Description of taken notice of its Enmity the *Sword-Fish* in *Vol. II.* to the Whale.
p. 93. where we have also

THE Mention of these Fishes, which are in a perpetual State of War with each other, puts us in mind of the *Dolphin* and *Flying-Fish*, which are common in the *American Seas*; and indeed in many Parts of the *Atlantic Ocean*. The *Flying-Fish*, according to *Sir Hans Sloane*, is of the *Herring-Kind*; but *Mr. Smith* describes it as somewhat longer than a *Herring*, and somewhat thicker and rounder in Body. It has a Fin on each Side close to the Gills, about four Inches long, being broadest as well as a little rounded at the Extremity. When these Fishes are chased by a *Dolphin*, or other Fish of Prey, they evade the Pursuit by flying out of the Water; and this Flight they continue so long as their Fins keep wet enough, which is perhaps for thirty or forty Yards *, and usually in a strait Line. They move their Fins as nimbly as Bees do their Wings, so as scarce to be perceiv'd; and as they are of a very bright shining Colour, they look exactly like so many Pieces of polish'd Silver darting through the Air. Their Sight, *Mr. Smith* supposes, is not extraordinary good when they are out of the Water, because two or three of them fell upon the Ship he was on board of, in which Case they are utterly disabled from rising again; but

* *Mr. Moore*, who saw abundance of these Fish in his Voyage to *Africa*, gives the same Account as to their flying no longer than their Fins are wet; but he believes some of them flew half a Mile on a Stretch.

why might not this proceed from their Fins growing dry, and rendering them incapable of flying any farther? Our Author adds, that these Fishes either fly singly, or in Flocks like Birds; and far oftener, he believes, out of Wantonness than Fear.

THE *Dolphin*, according to the same Naturalist, is a very strait-bodied Fish, and not that crooked Animal he is usually represented by Painters. His Head indeed is exactly the same as it is drawn in Pictures and on Signs; but, being thickest at the Gills, his Body grows gradually taperer quite down to the Tail, from the Extremity of which to the End of the Nose is commonly about four Feet. He is a Fish of Prey, as we have just now hinted, and swims very swiftly, insomuch that we are told he keeps Pace with the Flying-Fish, and often catches them just as they drop into the Water, after they have taken a long Flight to escape his Jaws. In order to catch the Dolphin, Mr. *Smith* says they fasten the Feather-Ends of two Goose-Quills to a Hook, one on each Side; and this being tied to a Line, not much thicker than Whip-cord, is drawn after the Ship's Stern when the Wind does not blow too fresh, making a small Rippling on the Surface of the Sea, like a Flying-Fish just rising out of the Water, which deceives the Dolphin, who seizes the Hook and Feathers, and is taken*.

* Mr. *Moore* agrees with of the Dolphin, and likewise Mr. *Smith* as to the Straitness tells us they caught several

THE Colours of the Dolphin are extremely beautiful, his Head being of the most lively azure Blue, as is likewise his Body from the Back-Fin to the Middle of each Side, with some Intermixture of Green, and strew'd with bright Spots of Gold, Scarlet, &c. From hence quite down to his Belly his Skin is the Colour of the fairest beaten Gold, but (in our Author's Opinion) far surpassing it in Beauty, and a Sight worthy the Attention of the greatest Monarch. About three Minutes after he is taken out of the Water, his glorious Colours grow faint and fading, and then presently return and vanish again as quick as Thought itself*. In short, says Mr. *Smith*, in five or six Minutes time this gay surprizing Object fills a Traveller's Mind with more lofty Notions of the Great Creator's Wisdom and Magnificence bestow'd upon the inferior Part of the Animal World, than ever it was capable of entertaining before. A Mackarel just taken out of the Sea is the most beautiful of *English* Fishes, in our Author's Judgment; but alas!

of them by making an artificial Flying-Fish, and skipping it to and fro very fast on the Surface of the Water, at the Stern of the Vessel.

* An Acquaintance of Mr. *Smith*'s, a Surgeon in the late unfortunate Expedition to *Carthagena*, describes the Dolphin as streak'd with

Green and Yellow, intermix'd with dark and light Blues, as well as beautified with an admirable Variety of purple, blue, and livid Spots, &c. all which are very curious whilst the Fish is dying, but as soon as it is dead the fine Colours are lost in a Moment.

(says

(says he) its Colours are infinitely short of those of a Dolphin.

THERE is a *Stellar-Fish* of a very strange and singular Form, of which Mr. *Wintbrop* has given some Account in the *Philosophical Transactions*, and which highly merits the Attention of the Curious. This Fish spreads itself from a pentagonal Root into five Branches, each of which is divided into two, and these ten Branches are subdivided into twenty, these again into forty, and so the Subdivision continues till the little Ramifications amount to 81,920; beyond which our Author could not certainly trace the Expansion, though possibly each of these small Threads might, if examined whilst the Fish was living, have been found to be farther subdivided. Its Body resembles an *Echinus* or Egg-Fish, the main Branches a Star*, and the Divisions of the Branches the Plant Mistletoe. — The Fisherman who brought this Fish to Mr. *Wintbrop* told him, that he never saw or heard of any of the Species, except six or seven he himself had taken at several times on the Coast of *New-England* when he was fishing for Cod. When first taken out of the Water it gather'd itself round like a Wicker-Basket; and having fasten'd upon the Bait on the Hook, surrounding it with its Arms, it would not quit its Hold though drawn into the

* This Fish is the *Stella* described by him, and since *arborescens* of *Rondeletius*, first by other Naturalists.

Vessel, till lying a while upon Deck it began to feel the Want of its natural Element, and then it voluntarily extended itself into a flat round Form. The only Use of all this curious Structure seems to be, to make a Sort of Purse-Net, for the Animal to catch other Fish, or whatever else is fit for its Food, and as a Store-Basket to keep some of it for a future Supply, or as a Receptacle to defend the young ones of the same Kind from Fish of Prey, if not also to feed on them; which appears not improbable, as sometimes Pieces of Mackarel are found within the Concavity, and sometimes a small Fish of its own Species. Every one of the smallest Parts of the Fish had Motion when it was alive, and a tenacious Strength; but after it was dead and expanded, it could scarcely be handled without breaking, though by carefully laying it to dry it was somewhat harden'd. Mr. *Wintthrop* thinks it may be call'd a *Basket-Fish*, a *Net-Fish*, or a *Purse-net-Fish*, till a fitter *English* Name be found to distinguish its Species.

THERE is another Kind of *Star-Fish* which stretches out five long Arms or Claws, making five Angles, and ending in so many Points, resembling a Star as it is usually painted. This Fish moves in all Directions indifferently, sometimes creeping, and sometimes swimming. It has several little Trunks of a fleshy Substance, through which it sucks its Food out of the Mud; and towards the Centre of its Body it has a Mouth

Mouth arm'd with Teeth. As these Creatures do not enjoy the Benefit of Sight, for discerning their Prey in common with other Animals, Nature has therefore provided them with more Instruments for feeling, sucking, and devouring their Food; for when they have not an Opportunity of exercising their Teeth, they can go to Work with their Trunks in the Mud and among the Weeds, and by that means procure a tolerable Repast. It is not yet discover'd how the Office of Digestion is perform'd in the Star-Fish, or how it voids its Excrements, unless it be under a Sort of roundish Stone, which is found on its Back, and seems fasten'd to it with Ligaments.

THE *Echinus*, or *Sea-Urchin*, though not peculiar to the Seas of *America*, deserves to be mention'd. There are several Species of this Shell-Fish, but those are most properly call'd so which are cover'd with Prickles resembling those of the Land-Urchin, or *Hedge-Hog* *. The Mouth of this Fish is placed on its under Part, touching the Ground, and is arm'd with five Teeth, which meet at their Extremities in a Point, that they may all work together. The Stomach and Bowels fill the Inside of the Shell, which has several little Holes in it to give free Liberty to the Action of those Ligaments that

* A Species of Sea-Urchin, otherwise call'd a *Globe-Fish*, has been already taken notice of in p. 72. of this Volume.

are to move the Prickles, which serve the Animal for a Covering and defensive Armour. The outward Extremity of the Prickle is sharp-pointed, but the other End next the Shell is hollow'd like a Socket, and receives a little Tubercle to which it is jointed. Several of these Tubercles are seen on most of those Shells that have no Prickles on them; but what is most remarkable in some Sea-Urchins is a Sort of Bristles, which they thrust out or draw in at pleasure. They are like so many small Tubes or Reeds, and with these they suck and separate those Juices which are their proper Nourishment.

BUT of all the Shell-Fish which either the *American* or any other Seas afford, perhaps none are more to be admired than the *Nautilus* or *Sailor*, which *Vallisneri* has prettily described, and after him the ingenious Author of *Spectacle de la Nature*. The turbinated Shell of this Fish, which is beautified with strong and lively Colours, may properly be call'd a natural Boat, since the little Animal that inhabits it makes use of it in that Capacity. In calm Weather he mounts up in it to the Surface of the Water, unfurls a Membrane to the Wind, which serves him instead of a Sail, and extends two Arms, with which, like Oars, he rows his little Bark along. When he has a mind to dive, he strikes Sail, collects himself within his Shell, and, filling the remaining Cavity with Water, sinks to the Bottom: For the Fish, by contracting himself,

self, leaves a vacant Space in his Boat, into which the Water finds Admittance through a little Aperture, and by its additional Gravity causes it to subside. On the other hand, when the Fish has an Inclination to ascend to the Top, it is probable he dilates himself, and so forces out the Water out of his Boat, by which Evacuation it becomes specifically lighter than the Water, and consequently rises to the Surface. Thus the Animal steers his Course, without Chart or Compass, self-taught in the Art of Navigation, and is at once both Vessel and Pilot. From whatever Quarter the Wind blows, it is all one to our little Sailor, who is under no Apprehension of Danger, nor ever destitute of Rudder or Oars, Pump or Cordage, having within himself all the necessary Utensils of Navigation.

THE *Soldier-Crab*, or *Hermit*, is a very remarkable Kind of Shell-Fish, described by *Rondeletius* and other Naturalists as living in a House not its own, and owing its Security to the Labour of another, though Nature has provided it with a Shell, and given it Claws to defend and subsist itself in an honest Manner. It is the Custom, it seems, of this Fish to take Possession of the first Shell he finds empty, and sometimes several of them meet naked, and contend for the same Habitation, in which Case he that has the strongest Pincers carries the Day. Here the Conqueror takes up his Lodging for some time, till being grown too big for his

House he quits it, and seeks out another of a convenient Size, where he stays till he is tired of it, or is grown too bulky, and then he removes again. This is the Account that Naturalists give of this Fish; but the *French* Author lately mention'd does not think it deserves the Character of a lazy Animal, that lives by the Labour of others, as it is usually represented; for Nature (says he) knows no such Principle as Idleness, nor ever acts without Reason or wise Design. The Truth is, the Body of this Fish, call'd by the *French* the *Poor Man* or the *Hermit*, is flabby, and cover'd with a thin Shell insufficient for its Security; which obliges it to take Shelter in some of those empty Shells, which are of no Use but to such a Tenant. This Precaution of the *Hermit* (adds our Author) is not unlike that of the little Crab, which, being sensible of the Weakness of his own Shell, begs House-room of the Muscle, who, having some to spare, receives his Guest, and they live very neighbourly together.—It is said the Oil distill'd from this Fish is an excellent Remedy for the Rheumatism.

THE *Cuttle-Fish*, the *Calamary*, and *Pourcontrel* or *Polypus*, seem to be different Species of the same Fish, and are found in the Seas of *Europe* as well as those of *America*. The *Cuttle-Fish* is cover'd on the Back with a white bony or testaceous Substance, an Inch thick in the Middle, but thinner on the Sides; on the upper Part hard, smooth, and glabrous; on the
lower

lower fungous, softish, somewhat rough, and friable. It has two large black Eyes encircled with Red, and besides several Claws, it has two long Trunks or Horns, which serve it in swimming, and to let down like a Line for its Prey, the Hook at the End of each laying hold of the small Fish on which it feeds.—The *Calamary* is provided with much the same Instruments; and the *Pourcontrol* or *Polypus* has, besides its eight Claws, an Excrescence that rises from its Back in Form of a Pipe, which he inclines to the Right or Left to steer him as he swims along.—But what is most observable in these Fishes is, that they are all provided with a Bag under their Throat, full of a Liquor as black as Ink, which either through Fear or natural Instinct they discharge when pursued by other Fishes, and so by troubling the Water have an Opportunity of making their Escape.—The Bone, the black Liquor, and the Eggs of the Cuttle-Fish are of use in Medicine. The Bone dries and absterges, cures Spots and Freckles, is good for the Eyes, removes Swellings in the Gums, gives Relief in the Asthma, stops a Gonorrhœa, expels Gravel, and promotes Urine. The black Humour is said to loosen the Belly, and the Eggs absterge the Kidneys and Ureters, and provoke Urine and the *Menfes*.

HAVING mention'd a *Polypus* (which Word signifies *Many Feet*) it leads us to take notice of a very curious Discovery made some Years ago

by M. Tremblay at the *Hague*; concerning which M. Reaumur read a Memorial before the *Royal Academy of Sciences* at *Paris* in *November* 1742. The Substance of it was, That an aquatic Insect call'd a *Polypus* was found to have this Peculiarity in it, that when cut into several Parts, each of those Parts produces of itself, in in the Space of twenty four Hours, what it wants to compleat the Whole; so that the Part belonging to the Head will produce a Tail, and on the contrary. Nay, some of those Insects have been cut transversly into forty Parts, which each produced what was wanting in it to make a perfect Insect; so that from one Polypus proceeded forty. If they be cut down the Middle from Head to Tail, each Half will produce another.—On this Occasion M. Reaumur made several learned and judicious Observations, particularly that, as it is an Axiom that Nature is not singular in her Productions, there must be other Insects endued with the like wonderful Property: And he reports, that by Experiments he has already discovered the same in certain Earth-worms, but that Nature operates in them much more slowly*.

* Mr. Smith has inserted this Account in one of his Letters, and mentions a Property of the *Lizard* which had fallen under his own

Observation, viz. that if one of them had half its Tail bit or cut off, it would soon grow again to its usual Length.



THE

THE Fishes we have been describing are such as are perpetually travelling from Place to Place, but there are several others of a quite contrary Nature, which remain all their Lives attach'd to one and the same Situation; as the *Auris marina*, or *Sea-Ear*, and the *Limpets* of every Species. It is wonderful indeed how these and many other Shell-Fish subsist without seeking out for Provision, unless we suppose their Prey comes to them of its own Accord: And perhaps this is the Case with some of them, particularly the *Sea-Ear*, where the little Holes along the Brims of the Shell seem design'd as so many Traps to catch the small Worms that are found at the Bottom of the Sea in great Abundance.

AMONGST this Kind of Animals the *Sea-Mushroom* is one of the most remarkable, which never quits the Place where it has once fix'd its Abode. These little Creatures are found sticking on the Sides of Rocks, where they look like Mushrooms when they are shut and collected within themselves, and like the *Anemone* when they open and display all their Trunks. There is no forcing them to open against their Will, but upon pressing them they sometimes eject young ones of different Sizes, which seems to prove that they are viviparous, and both male and female. You may loosen the *Sea-Mushroom* from its Hold, carry it away, and keep it in Water, where it will fasten itself again to the first convenient Place it finds.

When

When it has a mind to open, it raises itself, and thrusts out two white Pellicles like Bladders, round which appear a vast Variety of Points or Trunks, of different Sizes and Colours, which has made some Naturalists call it the *Sea Anemone*. This Opening, not unlike the Blowing of a Flower, has inclined others to look upon it as a real Plant, or else as partaking both of the animal and vegetable Nature: But as it is certain the little Points or Studs just mention'd are not Leaves, but a Sort of Snouts or Trunks designed for the sucking in of Nourishment, like the fine Reeds or Prickles of the Sea Urchin or Star-Fish, we cannot deny it a Place in the Animal Kingdom; especially after such a Circumstance as that of three or four young ones issuing from the Parent upon squeezing it, which is confirm'd by sufficient Testimony.

THIS short Account of some of the Inhabitants of the Ocean may serve as a Specimen of that inexpressible Wisdom which appears in the Works of the Creation, and of the various Methods that God has provided for the Support of different Animals. And we cannot but admire (with the ingenious *French* Writer whom we have chiefly follow'd on this Subject) the Kindness of Providence, in that Profusion of Riches which the Sea pours in upon us, every time it rises and floods our Coasts, *viz.* those vast Quantities of Lobsters, Oysters, and all Sorts of Shell-Fish it brings up along with it; from whence, after having fatten'd them either with its own Sub-

Substance, or such nutritive Particles of Earth and Air as are contain'd in it, it retires by a gentle Decrease, giving Man Access to these Dainties, and inviting him to come and gather its Favours, which it has so liberally scatter'd upon the Shore, or left upon the Rocks.

As the same Author observes, we have just Reason to be charm'd with the Lustre and Beauty that appears in the Coverings of the testaceous Animals, though apparently they are nothing but a Discharge of an excrementitious Matter from the Body that produces them. How delightful is that Mixture of red, blue, and green Colours that stain the Silver Ground of the Shell of the Naker or Mother of Pearl! But most amazing of all is that wise Design and Contrivance which appears not only in the Shell of this Fish, but even in that of the common Oyster or Muscle. The greatest Part of these Animals are viviparous, and bring forth their Young with the Shell about them, which Covering Nature has provided them with for their Security and Defence; and has also made them to abound with a Slime or viscous Juice, which they emit to the Extremities of their Shells, where it hardens into a Substance of the same Nature, and by that means enlarges their Habitations proportionably to the Growth of their Bodies*. Hence come those curve Lines that

* Naturalists have been generally mistaken as to the Manner of the Formation of Shells. The Animal and its

we discern in the Shells of divers Fishes, one without another, which perhaps shew the Number of their Years, or at least the different Stages of their Growth. There is also a sur-

Shell have been always supposed to proceed from the same Egg; but M. *Reaumur* has shewn the Supposition to be false, having found by certain Experiments, that the Shells of Garden-Snails are form'd of a Matter which perspires from their Bodies, and hardens and condenses in the Air. All Animals are known to perspire, and are encompass'd with a Sort of Cloud or Atmosphere, which exhales from them, and probably assumes nearly their external Figure. Snails have nothing peculiar in this Respect, unless that the Atmosphere of their Perspiration hardens about them, and forms a visible Covering, whereof the Body is the Mould or Model, whereas that of other Animals is evaporated and lost in Air. This Difference arises from the Difference of the Matter perspired; that of testaceous Animals, particularly the Snail, being viscous and stony.—On this Principle,

though the Shell serve the Animal as an universal Bone, yet it does not grow like a Bone, nor like any of the other Parts, by Vegetation, that is, by a Juice circulating within itself; but by an external Addition of Parts laid one over another.

—To consider the Thing a little more particularly: It is to be remember'd, that the Snail's Head is always at the Aperture of the Shell, and its Tail in the Tip or Point of the Shell; and that its Body is naturally turn'd into a spiral Form, the different Circumvolutions whereof are in different Planes. Suppose then the Snail just hatched; as the Matter it perspires petrifies round it, there must be form'd a little Cover proportion'd to the Size of its Body; and as the Body is yet too small to make a Circumvolution of a Spiral, at least a whole one, this Cover will only be the Centre, or at most the Beginning of a little spiral

prizing

prizing deal of Workmanship shewn in the Formation of that Hinge which joins the upper and lower Shells of a Muscle, and in the curious Movements of those little muscular Fibres and Ligaments with which it is fasten'd. When the Animal has a mind to shut itself close up within its vaulted Habitation, it discharges a certain Liquor into those Muscles, which causes them to dilate and swell, and consequently shortens their Length, so that both the Shells are thereby brought closer together. On the other hand, when it is disposed to open its Doors, at the Return of a new Tide, or the Fall of some agreeable Shower, it withdraws that Liquor from them, whereby they are relax'd and lengthen'd. But these, our Author acknowledges, are only probable Conjectures, it being impossible for us to determine any thing certain, of what is conceal'd from our Observation at the Bottom of the Sea. However, what we do see is sufficient to excite our

Curve. Now as the Animal grows, if it ceased to perspire, it is evident all that is added to its Body would remain naked; but as the Perspiration continues, the Cover increases in Proportion to its Growth. Thus an entire Circumvolution of a Spiral is form'd; and so a

second and a third; and still every new Spire is bigger than the last, in regard the Animal grows in Thickness, at the same time it grows in Length. When it ceases to grow, it does not cease to perspire; and accordingly the Shell increases in Thickness, though not in Length.

Wonder

Wonder and Astonishment at the constant Regularity of Nature in providing for the meanest Creatures, and our Gratitude to the great Author of Nature for those innumerable Benefits he so liberally bestows upon us.

BUILDINGS and ANTIQUITIES.

AS we have heretofore endeavour'd to give the Reader some Idea of the Grandeur of the *Peruvian* Monarchs before the *Spaniards* conquer'd their Country, so it shall be the Business of this Article to consider the present and ancient State of the City of *Mexico*, now an Archbishop's See and the Seat of a *Spanish* Viceroy, and formerly the Capital of a great and opulent Empire.

THIS famous City stands in the Lake of its own Name, on the East Side of a Valley, at the Foot of a Ridge of Hills, and is only to be approached by five Causeys, but has neither Gates, Walls, nor Artillery. It is one of the most regularly built Cities in the World, the Streets being strait and crossing each other at Right Angles, and in the narrowest of them three Coaches may go abreast. It is almost quadrangular, being more than five Miles one Way, and little less than four the other, according to some Writers; but a *Spanish* Author of Credit, who lived there long enough to know it, says it is not much above six Miles in Compass, and that it contains about a hundred thousand

thousand Inhabitants, many of them immensely rich, the most valuable Commodities of the *East* and *West Indies*, as well of *Europe*, being daily exposed to Sale in their Market-Place, which is a spacious Square in the Middle of the City. The Houses are built of Brick and Stone, but not very high, the Country being subject to Earthquakes; and as all the Buildings are very convenient, so some of them are very magnificent, especially the Cathedral, which was a Work of sixty Years, and is embellish'd with the finest Painting, Gilding, Carving, and other Ornaments. This Structure, with the Cloysters and Dwellings of the Clergy adjoining to it, takes up a large Space of Ground; and the Revenues belonging to it are equal to the Beauty and Magnificence of the Buildings. The High Altar is said to have cost fifty thousand Pieces of Eight, each Piece about four Shillings and Sixpence *English*; and the Chalice for the ordinary Service eleven thousand, being of Gold enchased and set round with Rubies. There is also an Image of the Virgin *Mary*, which is of massy Silver, adorn'd with Rubies and Pearls to the Value of thirty thousand Pieces of Eight, and which is carried in Procession once a Year, when a certain Number of Maids draw Lots for three hundred Pieces of Eight for their Portions.—Besides the Cathedral there are about thirty other fine Churches, twenty two Convents of both Sexes, and several Hospitals richly endowed. The Revenue of the Cathedral is at

least seventy thousand Pounds *per Annum*, of which the Archbishop has fifteen thousand, besides a great many Fines and other Perquisites.

THE great Square or Market-Place already mention'd has a Piazza on one Side of it, under which are some of the richest Shops in the World; and on the opposite Side stands the magnificent Palace of the Viceroy, which was new built in the Year 1698, and whose principal Front is not inferior to that of the Palace at *Naples*, which it resembles, particularly in its noble Stair-case, leading to a great Number of beautiful Apartments: And yet the Archbishop's Palace, which is built round like a Theatre, is reckon'd a more stately and elegant Structure than that of the Viceroy.

NEXT to this great Square is a Street call'd the *Plateria*, inhabited by Goldsmiths and Silversmiths, whose Shops are furnish'd with such a Variety of Utensils and Ornaments of Gold, Silver, and Jewels, as perhaps cannot be parallel'd in any other City in the World: For here even the Negro Women that walk by the Ladies Coaches wear Bracelets of Gold, Pearl Necklaces, and Jewels in their Ears; and the black Foot-boys are dress'd in rich Liveries, dawb'd with Gold and Silver Lace. Here they are continually making either Church or Family Plate, especially when the Merchants are heaping Goods against the Arrival of the Gallions; at which Time the Shops and Warehouses are fill'd with Chests of Plate design'd
for

for *Old Spain*, piled up to the very Cielings. The Glasses or Sashes, like those of our Goldsmiths, are full of gilt Plate, and their Cabinets are fill'd with vast Quantities of Rings, Pearls, large Jewels, numberless Toys, especially Gold Snuff-boxes enamell'd and set with Rubies and Emeralds, of which it is said ten thousand are sometimes to be seen in this Street, and hardly a Fleet departs for *Old Spain* without carrying off at least five hundred.—The Street where the Mercers expose their Silks has a very grand Appearance; and that where the Tradesmen reside who deal in Brass, Steel, and Iron Ware, is very long and spacious: But the Street inhabited by the Nobility, Gentry and Lawyers, without any Shops intermix'd, exceeds all the rest for stately Buildings, the principal whereof is the fine Palace of the Marquis *del Valle*, the Successor of *Cortez* who conquer'd *Mexico*, which stands on the Ground where the Palace of the Emperor *Montezuma* stood, and is deservedly admired for its Structure and Dimensions.

THERE is in *Mexico*, a pleasant Ring or Park, planted with Trees, and adorn'd with Fountains and Water-Works, whither the Quality of both Sexes, and the gay Part of the Town, resort every Evening. Several Hundreds of Coaches are frequently seen here, most of them with fine Equipages and a great Number of Pages and other Servants, of whom the former are generally Negroes. The Ladies are said to be

great Gamesters; but the chief Diversion for People of all Ranks is in Canoes upon a fine Canal, the Banks whereof are furnish'd with vast Variety of Dainties for their Accommodation. Others divert themselves with fishing in Boats upon the Lake, carrying along with them Wine and cold Provisions. The Neighbourhood of the City is render'd extremely pleasant by the many Villages, Monasteries, Palaces, Country-Seats, &c. which either stand on Islands, or on the Banks of the Lake. Their best Water is brought to Town by an Aqueduct from a Mountain several Miles distant.

NEAR the Beginning of this Aqueduct is *Chapultepec*, the Burial-place of the *Spanish* Viceroy, as it was formerly of the *Mexican* Emperors. Here is a sumptuous Palace, with fine Gardens and Water-Works, and a beautiful Chapel, the Ornaments whereof are reckon'd to have cost above a Million of Crowns.—As to *Indian* Antiquities about *Mexico*, the *Spaniards* have destroy'd the greatest Part of them, but about seven Leagues from the City there still remain two remarkable Pieces, *viz.* the Pyramids of the Sun and Moon, the Founders of which are not known. They appear cut out in Steps like those of *Egypt*; and on the Top of them formerly stood two Images of a monstrous Size, representing the Sun and Moon, which the *Indians* worshipp'd. The Pyramid of the Sun stands about two hundred Paces from the other, and is about a fourth Part higher.

HAVING

HAVING given a Description of modern *Mexico*, we now come to treat of the ancient City, which, as it stood on the same Ground the present City stands on, there is Reason to believe was square, or pretty near that Figure; and its Dimensions may be guess'd at from the Number of Families residing in it, which the Histories of that Conquest make to be about sixty thousand. As at present, there was a vast Square in the Middle of the City, which, at the Time of their great Fair was resorted to by at least a hundred thousand People, and contain'd a great Number of Booths and Tents wherein they lodged their Merchandise. The City was divided into two Parts; the one inhabited by the Court, the Nobility, and Persons of Distinction; the other by Tradesmen, and People of inferior Rank. The former Part was much the largest, where the Streets were spacious, the Houses of white hewn Stone, one Story high, and they had flat Roofs, adorn'd with Battlements. Their Cielings were of Cedar, Cypress, or other odoriferous Wood; and their Hangings either of Furs and beautiful Feathers, or Cotton Linen, painted with a Variety of Figures of Plants and Animals: But notwithstanding their Wealth, none of the Nobility were serv'd in Plate, which was the Prerogative only of the Emperor.

THE Palace of *Montezuma*, the last Emperor, was so very large, that it had thirty Gates, which open'd into as many different Streets,

the principal Front making one Side of the great Square above-mention'd. The Materials of this Building were polish'd Jasper, black, red, and white; and over each Gate were the Arms of *Montezuma*, being a Griffin with the Wings extended, and a Tiger in his Talons. The Whole consisted of several square Courts, and was so vastly extensive as to contain Apartments for three thousand of the Emperor's Women, and a proportionable Number of other Domestic-sticks.—Another Palace assign'd to *Cortez* and his Army was likewise of a surprizing Extent, containing commodious Rooms and Apartments for his five hundred *Spaniards*, and six thousand *Indians* his Auxiliaries; and when the *Spanish* General had planted his Artillery, and placed his Guards, it had much the Appearance of a Fortrefs, being surrounded with a thick Stone Wall, and flank'd with Towers.

WHEN *Cortez* and his Army first enter'd the Streets of *Mexico*, they were met by two hundred Noblemen of the Emperor's Household, cloathed in one Livery, with large Plumes of Feathers on their Heads, all of the same Fashion and Colour. These, after meeting and paying their Compliments to the *Spanish* General, fell back, and then dividing themselves made a Lane for the *Spaniards*. Then came another Body of the Nobility of a superior Dignity, who made a more splendid Appearance; and in the midst of them was the Emperor *Montezuma*, carried in a Chair of beaten Gold,
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on the Shoulders of his favourite Courtiers, whilst four of them sustain'd a Canopy over his Head. The Whole was adorn'd with beautiful Feathers, through which the glittering Gold appear'd; and the Emperor was preceded by three Officers with Rods of Gold, the Harbingers of his Approach, on whose Appearance the People fell upon their Faces, not daring to look upon their Monarch. *Cortez* dismounting when the *Mexican* Emperor drew near, the latter alighted from his Chair, and Carpets were spread in the Streets for him to tread on. He advanced, it is said, with a solemn slow Pace, leaning on the Arms of two Princes his Relations, and was met by *Cortez* with a becoming Haste and a most profound Reverence; which the Emperor answer'd by touching the Ground with his Hand, and afterwards raising it to his Lips; which was look'd upon as a great Condescension, and added to the Esteem and Veneration his Subjects already had for the *Spaniards*. The Conference between the *Mexican* Emperor and *Cortez* was short at this Interview, after which *Montezuma* commanded one of his Princes to conduct the General to the Palace appointed for his Residence, and then return'd to his own. The spacious Apartments of this Palace have been taken notice of above.

BESIDES the two Palaces already mention'd, *Montezuma* had several Pleasure houses in and about the City; in one of which were great Galleries, supported by Pillars of Jasper, and
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in them were kept all Sorts of Land-Fowls and Birds that *Mexico* produced. The Sea-Fowls were preserv'd in Reservoirs of salt Water; and those that were bred up in Lakes and Rivers, in others of fresh Water. And so numerous were these Birds, that it is said to have been the Business of three hundred Men to look after them. In another Square of the Palace were kept all manner of wild Beasts in their respective Dens or Cages, in a most regular Order. In another Square of the same Palace were Apartments for Dwarfs and Monsters, Fools and Naturals, of the human Species, kept for the Diversion or Service of the Court. Here were also Armouries, well replenish'd with all Sorts of *Indian* Weapons; and the Artificers that form'd and clean'd these Arms had Apartments in the same Quarter.

ALL these Palaces of the *Mexican* Emperors had spacious and elegant Gardens, laid out in fine shady Walks, Beds of fragrant and medicinal Herbs, and Parterres of beautiful Flowers, with magnificent Summer-houses, Bagnio's, Arbours, and Fountains. But there was a Building in the most solitary Part of the Gardens, which surprized the *Spaniards* more than any thing they met with, and it was call'd the *House of Sorrow*, because the Emperor used to retire thither on the Death of his Relations, or on any Calamity, publick or private. The Roof, the Cieling, and the Sides were black, and only just so much Light was admitted as to discover the
dismal

dismal Obscurity. In this gloomy Mansion, say the *Spanish* Authors, *Montezuma* used to converse familiarly with the Prince of Darkness.

THE principal of the *Mexican* Temples was dedicated to *Viztlipuzli*, the God of War. The whole Edifice form'd a large Square, and was encompass'd by a Wall of hewn Stone, adorn'd on the Outside with Knots of twisted Serpents. At a little Distance from the chief Gate was a Place of Worship, built of Stone, having an Ascent of thirty Steps, which led to a long flat Roof, and the Front of it (as the *Spaniards* relate) was decorated with the Skulls of Men who had been sacrificed to their Idols. On each Side of the Square was a magnificent Gate, and over every one of them four Statues, supposed to represent some subordinate Deities. At the Foot of the Wall within were the Apartments of the Priests, and of their inferior Officers and Servants; and yet there was room enough left for eight or ten thousand Persons to dance on their solemn Festivals. In the Middle of the Square was a Structure of a pyramidal Form, three Sides whereof were smooth, and the fourth ascended by a hundred and twenty Steps. There was a Flat on the Top, forty Feet square, laid with Jasper of different Colours. This Flat was surrounded with twisted Rails, and on each Side was a Marble Statue, supporting a vast Candlestick, between which was a green Stone, five Spans high from the Ground, which terminated in a Point; and on this, it is said, they extended

extended the human Victims they sacrificed, throwing them on their Backs, and ripping them open with sharp Flints instead of Knives; after which they tore out their Hearts, and offer'd them to their Idols. On the farther Side, opposite to the Stairs, stood a Chapel of exquisite Materials and Architecture, where an Idol was placed above an Altar. This Image was of human Form, and set on a Throne, sustain'd by an azure Globe, which they call'd *Heaven*; and from the Sides of it issued four Rods, whose Ends resembled the Heads of Serpents. On the Head of the Image was a Helmet, adorn'd with Plumes of various Colours; and its Countenance was severe and terrible. In the Right Hand it held a twining Serpent, which serv'd for a Staff; and in the Left Hand four Arrows, which were revered as the Gift of Heaven. It likewise bore a Shield, adorn'd with fine white Plumes in form of a Cross.—On the Left Hand was another Chapel, in which was the Image of *Tlalock*, another of the *Mexican* Deities, almost in every Respect resembling the former. These two Idols were so intimately united, in the Opinion of the poor *Indians*, that they ascribed to them the same Attributes, and paid them the same Honours. The Walls and Altars of these Chapels were immensely rich, cover'd with Jewels and precious Stones, set on Feathers of various Colours. There were eight of these Temples in *Mexico*, of the like Architecture and equal Wealth; besides two thousand small ones,

ones, dedicated to so many different Gods, every Street having its tutelar Deity, every Distress or Calamity its particular Altar.

ON an Island in the Lake, about two Leagues from *Mexico*, was situated *Iztacpalapa*, the two Cities having a Communication together by a spacious Stone Causey. This Town consisted of ten thousand Houses, many of which were built like those of *Mexico*. The Rooms of the Cacique's Palace were hung with Cotton-Linen finely painted; and among the Curiosities in his Garden he had a square Reservoir, with Stairs to go down to the Bottom, each Side being four hundred Paces.—Another City, call'd *Cholula*, was for Beauty like *Valladolid* in *Spain*, containing twenty thousand Souls, and having Suburbs of equal Dimensions.—The City of *Tlascala* was also built with Stone and Brick, like the Houses of *Mexico*, and was situated on four Eminences, which were united and defended by a Stone-Wall: So well were the *Mexicans* skill'd in Architecture in those Days, though now there are not any Towns in the Country built of Brick or Stone, except those in Possession of the *Spaniards*.

As to the Buildings of the *Indians*, even those who have submitted to the *Spaniards*, and embraced their Religion, live in thatch'd Huts or Cottages, and observe little Regularity in laying out their Streets. Their Houses are not contiguous, nor in any Order; only they have one common Guard-house, situate on an Eminence,

nence, whither they resort on the Approach of an Enemy, or when they assemble in Council. Their Method of building is to set up Posts seven or eight Feet high, and two or three Feet asunder, and having wattled up the Intervals they cover them with Clay. The Roof is made like that of our Barns, and usually cover'd with Palmetto Leaves, a Hole being left in the Middle to let out the Smoke. Instead of Beds they use Hammocks, which are hung up on the principal Beam from one End to the House to the other; nor have they any Seats or Tables but Blocks of Wood. Their Furniture consists of Pots, Pans, and other Kitchen Utensils, with Calabashes or Gourds of an uncommon Size to hold their Liquor; and their Arms and other Implements were hung round the Cottage as Ornaments. Their Guard-house is generally about a hundred and thirty Feet long, five and twenty broad, the Walls nine or ten Feet high, and the Roof cover'd in the same Manner as their Cottages. They have narrow Loop-holes on the Sides, from whence they can annoy an Enemy with their Arrows, especially as the Ground is clear'd of Wood and Shrubs all round to a considerable Distance. However, by shooting flaming Arrows into the Thatch, these slight Fortresses are easily destroy'd.

BEFORE we take Leave of *Mexico* it is not amiss to observe, that the *Mexicans* differ widely in their Genius and Temper from what they were when the *Spaniards* arrived amongst them.

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The first Adventurers inform us, that they were a very ingenious People, inoffensive and hospitable; and that the Generality of them were weary of their idolatrous Superstitions, and particularly detested their human Sacrifices. It appears they were no mean Artificers in Painting, Statuary, and Building. They used both the Pencil and the beautiful Feathers of Birds in drawing and forming of Pictures; and without Iron Tools they had found Means of hewing from the Rock and polishing vast Pillars and Slabs of Marble, and likewise precious Stones and Jewels. They made offensive and defensive Armour; wrought Mines of Gold, Silver, and Copper; melted and separated these Metals, and afterwards work'd them into different Utensils. We find also, that they built large Towns, removed Stones of great Bulk from Place to Place; and all this by mere Dint of Labour, without the Assistance of Horses, Oxen, or other Cattle. They had likewise Images of Gold and Silver, Wood and Stone; but how they form'd them, without such Instruments as we make use of, is to us a Mystery; for it seems the *Spaniards* were so intent upon Plunder, that they neglected to make proper Observations on these Articles; at least they did not think fit to transmit an Account of them to Posterity. Sharp Flints indeed in some Measure supplied the Want of Knives, Axes, &c. but it shew'd a great Genius and uncommon Application, that they were able in such Cir-

cumstances, and with no better Instruments, to perform any thing curious.

THE principal Manufacture of the ancient *Mexicans* was Cotton-Linen, which they spun and wove, and afterwards painted with the Figures of Men, Beasts, Birds, Flowers, &c. In some Cases they made use of the Sinews of Animals instead of Thread, and of Bones instead of Needles. But though these *Indians* were such ingenious Artists two or three hundred Years ago, there are sufficient Reasons to be given for their not being so at present. The *Spaniards*, under a Pretence of Zeal for destroying the Pagan Temples and Idols, but more for the sake of Plunder, ruin'd every Town where Arts or Manufactures flourish'd, and reduced the Natives to the most abject Slavery, compelling them to work in the Mines, and supply the Place of Beasts of Burden: And besides, the *Europeans* being provided with Tools and Instruments to perform Things in a better Manner than the *Indians* could do under so many Disadvantages, it is no Wonder the latter neglected their former Employments.—Those of the open Country who have still preserved their Liberties, of whom there are great Numbers, are People of Humanity, brave, generous, active, and unacquainted with the sordid Vices of those who live in Towns among the *Spaniards*. Every Man builds his own House, and makes his own Arms and Implements, and great Part of their Time is spent in Hunting, Shooting, and Fishing.

ing. They cultivate but little Ground, planting just enough *Indian* Corn, Roots, &c. to serve the Necessities of the Family; and these Plantations are left to the Care of the Women, after the Men have cleared the Ground. The Women also spin and weave their Cotton, do the Household Business, and in every thing serve their Husbands with Chearfulness and Alacrity. They even follow them when they go a Hunting, and carry Provisions, with Calabashes or Gourds for their Drink, and Pipkins to dress their Food. Every Man breeds up his Son to the Exercises of Hunting and Shooting, at which last the very Boys are so dextrous, that they will split a Cane with an Arrow at the Distance of twenty Yards. Those of the Province of *Honduras* are particularly active, strong, and nimble, and are bred to throw the Lance, Harpoon and Dart, and to draw the Bow, from their Infancy; and it is said that with a small Cane they will parry any of these missive Weapons. When they learn the Use of Guns they are excellent Marks-men, and are brave and daring in Battle; though most of the other *Indians* are much degenerated from the Courage of their Ancestors.

WE shall only add, that the *Mexicans* have their Dances and their Musick, such as Drums and Pipes; and indeed they seem to love every thing that makes a Noise, be the Sound ever so disagreeable. They frequently dance thirty or forty in a Circle, humming a Kind of Tune

all the while, stretching out their Hands, and laying them on each other's Shoulders. Sometimes they jump and skip about, and use the most antick Gestures for several Hours, till they are heartily weary; and now and then one steps out of the Ring to make Sport for the rest, shewing Tricks and Feats of Activity. The Women likewise have their Dances and Musick, and other Diversions by themselves.

TRADE, MANUFACTURES, &c.

AS a Conclusion to this Chapter, we believe the Reader will not be displeased to have a summary Account of the Trade carried on by the *British Colonies in America*, not only amongst themselves and with their Neighbours on that Continent, but with the *European Nations*, and particularly their Mother Country. —To begin with our Infant-Colony of *Georgia*, of which at first so great Hopes were entertain'd, and which we apprehend, if properly encouraged and supported would be of vast Service to this Nation. The Importance of this Settlement to *Great-Britain* appears when consider'd as a most effectual Expedient to secure the *Indian Nations* in our Interest, which inhabit the vast Countries to the West of *Georgia*; especially as the *French* had Views of the same Kind, who thought in a little time to have compleated that Chain of Correspondence, and indeed of Contiguity, between their Colonies of
Canada

Canada and *Louifiana*, on which their being formidable to us in *North America* absolutely depends; for should they finish that Design, they will then surround all our Colonies from *Nova Scotia* to *Georgia*: But by this Settlement we seem to have broke the Links of their intended Chain, by engaging in our Interest those very *Indian Nations* that are most capable of doing them Service and hurting our Colonies, particularly the faithful and heroic Nations of the *Upper* and *Lower Creeks*, a Country so call'd from its being intersected with Rivers, and extending from the *Savannah River* in *Georgia* to the Lakes of *Florida*, the *Cherokee Mountains*, and the *River Coussa*.

BUT with respect to Trade and Manufactures, no Branch seems so likely to succeed and bring Wealth to the Colony of *Georgia*, as well as to this Nation, as that of Silk; the Soil being extremely proper for the Culture of the Mulberry-Tree, and the Climate no less agreeable to the Silk-Worm. As a Proof of this we need only observe, that in the Year 1739, M. *Augspourger*, a *Swiss*, brought over a Parcel of Raw Silk from *Georgia*, and deposed before a Master in Chancery, that he receiv'd it from Mr. *Thomas Jones*, Store-keeper to the Trustees for establishing that Colony, who told him it was the Produce of *Georgia*. This being shewn at the Trustees Office to one of the greatest Silk-Weavers in *England*, and to an eminent Raw-Silk Merchant, they declar'd it was as fine

as any *Italian* Silk, and worth at least twenty Shillings a Pound.—There is likewise great Reason to believe, that very good Wines might in time be made of the Grapes in this Colony, and the same may be said of several of the *British* Settlements in *America*. The Coat of the natural Grape indeed is not strong enough to contain the Juice, so that when it is ripe it bursts; and the Frost about the Vernal Equinox often kills the Vines when they are shooting: And as for *European* Vines, many are destroy'd by the Insects of the Country. Experience however has shewn, that by grafting the *European* on the wild Vine all these Inconveniencies are in a good measure prevented; for then it shoots later, and so escapes the Frost better; the Skin of the Grape becomes thicker and stronger, and the Insects do less Prejudice. Some Vines brought from *Portugal* and *Madeira* have thrive very well, even in the most barren Parts of the Province; and, in short, nothing seems wanting but a sufficient Number of Inhabitants, with suitable Encouragement, to render *Georgia* a profitable and delightful Colony.

THE Produce of *Carolina* is much the same as that of *Georgia* would be if properly cultivated, but the Quantities of Rice exported from thence are very surprizing. It is sown in Furrows, about eighteen Inches distant, a Peck being sufficient for an Acre, which seldom yields less than thirty Bushels, and sometimes twice that Quantity. They reap it in *September* and the

the Beginning of *October*; and the Produce is now so great, that upon a Medium they ship off annually about sixty thousand Barrels, each containing four hundred Weight. This Trade employs above ten thousand Tons of Shipping, and returns to *Great-Britain* at least eighty thousand Pounds a Year; and, according to the Account of a late Author, it continues so increasing, that in Time all the Markets of *Europe* may probably be supplied with Rice from that Province. It is said that for many Years they have also exported about seventy thousand Deer-Skins, for which they trade with the *Indians*, giving them in Exchange Guns, Powder, Knives, Scissars, Looking-glasses, Beads, and many other Trifles; likewise some coarse Cloths, Duffils, Calicoes, &c. for the Women; which Goods they sometimes send five or six hundred Miles to the Westward of *Charles Town*, though in general this Traffick is limited within the Compass of three or four hundred Miles. From this Province they also export very considerable Quantities of Pitch, Tar, Turpentine, Deal Boards, Cedar Planks, Pipe-Staves, Masts, Yards, and all Sorts of Timber; insomuch that above two hundred Ships have of late Years sail'd annually from *Carolina*, laden with the Produce of the Country. The Beef and Pork of *Carolina* find a good Market in the Sugar Islands.

THE Trade of *Virginia*, as well as that of *Maryland*, consists chiefly in Tobacco, in which
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more than two hundred Sail of Ships are constantly employ'd, which one with another are reckon'd to carry at least three hundred Hogsheds, in all sixty thousand or upwards. But let us suppose, as some do, the Quantity exported to *England* to be seventy thousand Hogsheds yearly, each containing four hundred Weight of Tobacco, and that only one half of this Quantity is consumed in *England*, then the Duty of these thirty-five thousand Hogsheds (at 8*l.* each) will amount to 280,000*l.* The other Half, which is exported from hence, will not bring above one Fifth of that Sum into the Exchequer; but if we allow no more than 50,000*l.* for the Duty of the thirty-five thousand Hogsheds exported, the whole Amount of the Customs on the seventy thousand Hogsheds will be 330,000*l.* and so much this Commodity certainly brings into the Exchequer in Time of Peace, but in Time of War our Trade is more uncertain.—This Branch of Commerce is a very beneficial one to *England*, for, besides all other Advantages, the Profit arising from the Tobacco exported hence to foreign Markets has been computed to increase the general Stock of the Nation 150,000*l.* a Year: And then, as our Colonies take vast Quantities of *English* Manufactures in Return for the Tobacco and other Commodities they send us, it is undoubtedly our Interest to give them all possible Encouragement and Protection.

THE Produce of the delightful Country of *Pensylvania* is chiefly Wheat and other Grain, of which they export great Quantities to the rest of our *American* Colonies, as well as to *Europe*. They likewise export barrel'd Beef, Pork, Hams, Cheese, Butter, Soap, Wax, Candles, Cyder, Pipe-staves, Masts, Boards, Timber, several Sorts of Skins and Furs, and divers other Commodities: And besides their own Produce they frequently send us Logwood, Sugar, Rice, Pitch, Tar, Train-Oil, and, in short, whatever they think we want, or they can spare. Now to shew the Advantage arising to *Great Britain* from this Province, let us suppose what it seems is a pretty common Practice: A *Londoner*, or any *Englishman*, lays out here in our Manufactures to the Value of five hundred Pounds, these will purchase in *Pensylvania* at least six thousand six hundred Bushels of Wheat, which sent to *Lisbon*, at four Shillings a Bushel, come to upwards of thirteen hundred Pounds; which Money is sure to be sent home to *England* at last, if not immediately, and is of the same Advantage for Remittance or Exchange as any such Sum produced by Goods sent from hence directly. It is also usual for the Captain, if the Ship be Plantation-built, to have Orders to sell it at a certain Price if he can get it, which often happens, and in that Case the whole Produce of Ship and Cargo is sent to *England*; and if it be not the Property of *Englishmen* residing here, it is always ordered to be laid out in Goods.

Goods of the Manufacture of this Kingdom, or such as are imported hither, and sent to *Pensylvania*. In another Branch this Province is likewise of singular Advantage to *England*: for all the Money they get by trading with the *Dutch*, *French*, *Spaniards*, or others, which is not inconsiderable, is sent directly hither; insomuch that it has been computed, that sixty thousand Pounds in Cash are annually remitted to us from *Pensylvania*, and return'd in the Goods and Manufactures of this Kingdom.—Let us add, that *Philadelphia*, the Capital of *Pensylvania*, is already become one of the best trading Towns of the *British* Empire in *America*, for which it is excellently situated, and in all Probability will continue to increase in Commerce, Riches, and Buildings, till it will have no Equal in that Part of the World.

WHAT has been said of *Pensylvania*, with regard to its Produce and Trade, may in a great measure be said of *New Jersey*, the Inhabitants whereof sell their Flour, Pork, and other Provisions, particularly great Quantities of Pease, to the Merchants of *New York*, who export them to the *Sugar Islands*. This Province likewise sends some Skins and Furs to *England*, and Train-Oil, Fish, &c. to *Portugal*, *Spain*, and the *Canaries*. In the Year 1720 Governor *Hunter* reported that there were no considerable Manufactures in the Country, but that their Trade consisted chiefly in Pitch, Tar, and the other Articles we have mention'd. However,
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the Increase of its Trade and Produce may be judged of by that of its Number of Hands, especially Negroes, who are ten times as many as they were forty Years ago.

THE Inhabitants of *New York* deal largely with the *Indians* for the Skins of Elks, Deer, Bears, Beavers, Otters, and other Furs, most of which they send to *England*. They have also a considerable Trade to *Barbadoes* and the rest of the *Sugar Islands* with Horses, Beef, Bacon, Pork, Pease, Corn, Flour, and Pipe-Staves, for which they receive Sugar, Molosses, Rum, &c. in Return. A considerable Commerce is likewise carried on from this Province to *Madeira* and the *Azores* with Pipe-Staves and Fish, for which they load their Ships back with Wine and Brandy. But how advantageous the Trade of *New York* is to *England*, appears from what is affirm'd, that as the Winters there are pretty severe, they take off more of our woollen Manufactures than all the Islands put together, *Jamaica* excepted, and send us more Gold and Silver in Return. Upon the whole, it is generally allow'd, that there is not a Colony in *America* which makes a better Figure than this does, or where the People seem to have a greater Spirit of Industry.

WE now come to *New England*, the Seat of the most powerful Colony the *English* have in *America*, and which is likewise of great Advantage to this Nation, by taking from us all Sorts of Woollen Manufactures, Linen, Sail-Cloth,
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Cordage for rigging their Ships, Haberdashery Goods, &c. to the Value of three or four hundred thousand Pounds *per Annum*. Their Remittances were formerly made to us in Bullion* or in Species, but now they are so exhausted that they can no longer make them directly in that Manner, they send them by the Way of *Spain, Portugal, or Italy*, where they sell their Fish, and the Produce of it comes hither in Gold and Silver, or Bills of Exchange. They likewise make us very valuable Returns in Masts, perhaps the fairest and largest in the World, besides Pitch, Tar, Turpentine, Rosin, Plank, Knees for Ships, and other Sorts of Timber for various Uses. These Commodities, especially Pitch and Tar, were formerly purchased of the *Swedes* at an intolerable Price; but since the Encouragement given to their Importation from *New England*, they have fallen to half their Value. This Province also sends us Logwood for dying our woollen Goods, in Quantities more than sufficient for our own Use, the Surplus being sent to *Holland, Hamburgh*, and other *European* Markets: And it is chiefly owing to the Industry of the *New England* People, that this useful Commodity, for which we used to pay thirty or forty Pounds a Ton to the *Spa-*

* This Word denotes Silver or Gold in the Mass or Lump, not coin'd or wrought: Such are Ingots,

as we call them, which are melted down in a Sort of Mould.

niards, is reduced to about twelve Pounds, of which four Pounds five Shillings are paid to the Crown for Custom. We might mention other Articles, as Whale-bone and Oil, which are imported from *New England* in no inconsiderable Quantities, and which we must otherwise purchase of the *Dutch* with ready Money. This Colony is likewise of vast Service to our Sugar Plantations, which without its Help (and that of some other Provinces) could not make it cheap enough, nor in sufficient Quantities, to answer the Markets of *Europe*; for if they were obliged to sow Wheat or plant as much *Indian* Corn as they wanted, they must needs plant fewer Canes. From hence they are also supplied with Horses for their Mills, Staves for their Casks, Timber, Boards, Hoops, Butter, Cheese, Oil, Tallow, Apples, Flour, Beans, Pease, barrell'd Pork, salt Fish, and other Commodities, of which it is computed that *Barbadoes* alone takes from *New England* to the Value of 200,000*l.* a Year. Lastly, the Trade of this Colony employing not less than six hundred Sail of Ships, it is an excellent Nursery of Seamen for the Royal Navy; so that in *Queen Anne's* War it is said there was hardly a Ship in Commission without some *New England* Sailors on board, which so distress'd its Merchants that they were obliged to man their Vessels with *Indians* and Negroes.—We ought likewise to take notice, that a great many Ships are built in *New England*, more than in any other

of our Colonies, for the Merchants of *London* and *Barbadoes*; and some for mere Sale, which are sent to *England* to Market. Their Ships have the Reputation of being very well built and strong, but to this Strength it is chiefly imputed that they are not always the best Sailors. And it is worth observing, what a certain Writer on Trade affirms, that it is in our Power to be supplied from *New England* with all the naval Stores that we now fetch from the *Baltick*; and that if this Matter were once thoroughly consider'd by Parliament, it might produce some Law that would render this Colony still more beneficial to the Nation.—As to their Manufactures, it appears by proper Reports sent from thence to *England*, that they have some Forges for making Bar-Iron, some Furnaces for Cast-Iron, and that they make all Sorts of Iron-Work for Shipping; but the Iron imported from *Great Britain* is reckon'd much better than what is the Produce of *New England*. They tan a considerable Quantity of Leather, and make Hats not only for their own Use, but for Exportation; and a Native of that Country has lately inform'd us, that the *Irish* People settled there have brought the Linen Manufacture to such Perfection, that at *Londonderry* in *New Hampshire* it has often been sold for six Shillings Sterling a Yard, and commonly from twenty Pence to two Shillings: But he observes, that *New England* is still supplied with nineteen Parts in twenty of *British* Manufactures.

HERE

HERE it is requisite just to mention our young Colony, scarce yet establish'd in *Nova Scotia*, which in Time may possibly prove serviceable to this Nation, if it meets with due Encouragement and Support, and in some measure prevent the fatal Effects that may one Day or other be expected from our late Surrender of the important Island of *Cape Breton* to the *French*, our Rivals in the Commerce of that Part of the World, and on whose Friendship or Observance of the most solemn Treaties we have little Reason to depend. This Colony, we apprehend, (like that already settled at *Annapolis Royal* and other Parts of the same Country will subsist chiefly by bartering *European* Goods with the Savages for Skins and Furs, and by the Fishery on the Coast, there being vast Plenty of Cod, Salmon, Sturgeon, and other Fish. The Country is full of fine Oaks, Fir-trees, and other Timber, so that Ships may be built there as well as in *New England*, if the Trade of the Colony should ever require it. In general *Nova Scotia* is represented as a fine Country, the Climate being temperate enough, except in the Winter, the Air pure and wholesome, the Water light and clear, and the Soil proper for Corn, Fruit, Pease, and other Pulse. It abounds with Game, both of the four-footed and the feather'd Kind, its Rivers swarm with Fish, and in short, according to Father *Charlevoix*, it affords all the Necessaries

saries of Life in every Season, to subsist the Inhabitants without much Fatigue.

WE are now so near *Newfoundland*, that this seems a proper Place to give some Account of the Cod-Fishery, for which its Coasts have been long famous, and which is a Branch of Commerce of prodigious Advantage to *Great Britain*, as the *French* know very well, and are therefore endeavouring to get as large a Share of it as possible into their own Hands. That Part of the Sea where this Fishery is chiefly carried on is about the *Great Bank of Newfoundland*, which is a Kind of submarine Mountain of Sand, about a hundred and fifty Leagues in Length, and in some Places fifty in Breadth, lying on the East Side of that Island. To this *Great Bank*, and others near the Coast, several hundred Ships resort annually from divers Parts both of *America* and *Europe*, many of which bring away thirty or thirty-five thousand Fish apiece; and though this yearly Consumption has been made for two Centuries past, yet the same Plenty of Fish continues, without any sensible Diminution, insomuch that one would think them equal in Number to the Grains of Sand on the Banks they frequent*. The Gulph

* We have heretofore taken notice of the vast Fecundity of Plants, and that of Fishes is not less surprising, especially when we consider that these Inhabitants

of the Waters are not only destroy'd by Man their common Enemy, but are perpetually devouring one another, the smaller being a Prey to the greater. But notwith-

of

of *St. Laurence*, and the Coasts of *Nova Scotia* and *Cape Breton*, as well as those of *Newfound-*

standing these mutual Depredations, and the Snares of the Fishermen, by which one would think the watry Element would in time be depopulated, we see the wise Creator has sufficiently provided for their Preservation by giving Strength to some, to others Activity and Circumspection, and by multiplying them to such an astonishing Degree, that their Fecundity exceeds their natural Impatience to devour one another, and those vast Numbers that are destroy'd are soon recruited by the Survivors of the Species. Thus Cod-fish in particular, tho' so many Ship-Loads are every Year taken about the *Great Bank of Newfoundland*, those remaining of the same Tribe are always more than sufficient to furnish us with the same Quantity the succeeding Season. Almost every one has an Opportunity of observing the prodigious Number of Eggs or Spawn in some Sorts of Fishes; but what can the naked Eye discern in Comparison of what *M. Leeuwenboeck* discover'd by the Assistance of his excellent Mi-

croscopes? This Gentleman examining the Spawn of a Cod-Fish, took one of the Hairs of his Head, which through his Glass appear'd to be an Inch broad, and placing it near the *Animalcula* contained in the Spawn, he found that at least sixty of them would lie within its Diameter. This being suppos'd, and their Bodies being allow'd to be, as they are, spherical, *M. Leeuwenboeck* computed that 216,000 of them are equal to a Globe whose Axis does not exceed a single Hair's-breadth. *M. Petit* found 342,144 Eggs in the hard Roe of a Carp eighteen Inches long; but *M. Leeuwenboeck* only found 211,629 Eggs in one of those Fishes. What is most to our Purpose however, the last mention'd curious Enquirer into the Secrets of Nature tells us, that a Cod contains 9,344,000 Eggs. Who can help standing amazed at this prodigious Fertility, undoubtedly designed by Providence to preserve the Species from being entirely destroy'd by any Accidents or Enemies whatsoever!

land, abound with these inexhaustible Treasures, these rich Mines, which are of greater Value, and cheaper wrought, than those of *Peru* and *Mexico*: For, as the Author of *The British Empire in America* observes, besides the great Profit which particular Persons make of this Fishery, considering the Seamen it breeds, the Tradefmen it maintains, and the Shipping it requires, the Increase of the national Stock arising from thence is almost incredible. A Ship of a hundred Tons, with the Charge only of Victuals, Wages, and Fishing-Tackle for twenty Hands, shall carry to Market in *Portugal*, *Spain*, or *Italy*, three thousand Pounds worth of Fish, by which the Proprietors shall gain at least two thousand; so that a hundred and fifty such Ships will clear three hundred thousand Pounds annually, and consequently so much will the publick and private Stock be increased.

It is to be observ'd, that there are two Sorts of salt Cod, the one call'd *green* or *white*, the other *dried* or *cured*; but they are both the same Fish, only differently prepared. The best, largest, and fattest Cod are those taken on the South Side of the *Great Bank*; and the best Season is from the Beginning of *February* to the End of *April*, for then the Cod, which during the Winter had retired to the deepest Parts of the Sea, return to the *Bank*, and grow very fat. Those caught from *March* to *June* keep well enough; which cannot be said of those taken in *July*, *August*, and *September*. An experienced

perienced Fisherman, though he only takes one Fish at a time, will catch three hundred and fifty or four hundred in a Day, but not often so many; for it is very fatiguing Work, both on account of the Weightiness of the Fish, and the Cold that reigns about the *Bank*. When the Heads of the Fish are cut off, their Bellies opened, and the Guts taken out, the Salter (on whose Ability and Care the Success of the Voyage chiefly depends) ranges them in the Bottom of the Vessel, and having made a Layer thereof a Fathom or two square, he covers it with Salt; over this he lays another, and covers it as before; and thus he disposes all the Fish of one Day, taking care never to mix the Fish of different Days together. When the Cod have thus laid to drain for three or four Days, they are moved into another Part of the Vessel, and salted a second time; and this is all the Preparation these green Fish undergo.

THE principal Fishery for Cod intended to be dried is along the Southern Coast of *Newfoundland*, where there are several commodious Ports to carry the Fish ashore; and though the Fish are smaller here than at the *Bank*, on that account they are the fitter to keep, as the Salt penetrates them the better. As Cod are only to be dried in the Sun, the *European* Vessels are obliged to put to Sea in *March* or *April*, in order to have the Benefit of the Summer for drying. Some Vessels indeed are sent in *June* and *July*, but those only purchase Fish already prepared

prepared by the *English* settled in *Newfoundland*, giving them Meal, Brandy, Biscuit, Pulse, Linen, &c. in Exchange.—When the Ships arrive in the Spring, and have fix'd upon a Station, some of the Crew build a Stage or Scaffold on Shore, whilst the rest are a fishing; and as fast as they catch their Fish they land them, open them, and salt them on moveable Benches; but the main Salting is performed on the Scaffold. As soon as the Fish have taken Salt they wash them, and then lay them in Piles to drain. When drained they range them on Hurles, Head to Tail, and whilst they lie thus they turn them four times every four and twenty Hours. As they begin to dry, they lay them in Heaps, of ten or twelve apiece; and continue to enlarge the Heaps every Day, till they are double their first Bulk. At length they join two of these Heaps together, and turn them every Day, as before. Lastly, they salt them over again, beginning with those that had been salted first, and then lay them in huge Piles as big as Hay-stacks. Thus they remain till they are carried a Ship-board, where they are laid on Branches of Trees, disposed for that Purpose at the Bottom of the Vessel, with Mats all round, to prevent their contracting any Moisture.—Besides the Fish itself there are other Commodities obtain'd from it, viz: the Tripes and Tongues, which are salted at the same time with the Fish, and put up in Barrells; the Roes or Eggs, which being salted and barrell'd up are
of

of Use to cast into the Sea to draw Fish together, particularly Pilchards; and the Oil, which is drawn from the Livers, and used in dressing of Leather.

As to the Commerce of our Islands in *America*, some Part of it has been already taken notice of in speaking of that of our Colonies on the Continent; nor shall we enlarge much on that Head, but only add a few Particulars from which the Reader may judge of the vast Importance of them to *Great Britain*. Of these Islands *Jamaica* seems to be of the greatest Consequence, being reckon'd bigger than all the other *British* Sugar-Islands put together, *Barbadoes* excepted. From *Jamaica* alone we annually receive about ten thousand Tons of Sugar, besides two thousand more in Cotton, Indigo, Ginger, Pepper, Rum, and other Commodities, the Produce of that Island; so that there is not less than twelve thousand Tons of our own Shipping constantly employ'd in that Service only, besides what is employed between the Island and the Northern Plantations. In Return for these Goods *Jamaica* takes from us great Quantities of our Manufactures, both Woollen, Linen, and Silks, as well as wrought Iron, Brass, Copper, and all Sorts of Household Furniture. This Nation also reaps great Advantage from the Trade of the other Sugar-Colonies, of which *Barbadoes* is a remarkable Instance; for it appeared to the Parliament in 1730, that this Island exported to *England* in one Year 22,769 Hogf-
heads

heads of Sugar, valued at 340,396 Pounds: And according to a Treatise concerning *the Importance of the Sugar Colonies*, publish'd in 1731, they all produce, on an Average, 85,000 Hogf-heads in a Year; the neat Profit whereof the Author supposes to be spent in *England* by the Proprietors of Estates in those Colonies who reside here, or sent out annually in *British* Manufactures, either directly to the Sugar-Colonies, or to the Coast of *Guinea* to purchase Negroes for their Service. The same Author reckons, that there are three hundred Sail of Ships sent every Year to our Sugar Colonies from *Great Britain*, (not to mention those from other Places) which are navigated by about four thousand five hundred Seamen; and that the Freight for the Sugars brought hither amounts to 170,000 Pounds *per Annum*; and the Duty, Commissions, &c. to little less than 200,000 Pounds more: So that, upon the Whole, *Great Britain* gains yearly by the Sugar-Trade about 1,200,000 Pounds, besides the Profit arising from the other Articles imported from those valuable Plantations. As to the Exports from hence to our Sugar-Colonies, it appeared by the Custom-house Books in the Year 1726, that the *British* Manufactures exported to *Jamaica*, *Barbadoes*, and the *Leeward Islands* amounted to 234,785 *l.* 17 *s.*

Thus we have given as full an Account of our Plantation-Trade as the Limits of our Work would permit, or the Design of it requires;
and

and if any of our Readers should think they have been too long detain'd on that Subject, the Importance of it to the Nation must be our Excuse. We now proceed, in the last Place, to take a Survey of what is most remarkable in the *American* Islands, which will bring our Undertaking to its intended Period.

C H A P. III.

Of the AMERICAN ISLANDS.

THE Islands which lie about the Coast of the vast Continent of *America* are almost innumerable, many of them uninhabited, or in other Respects too inconsiderable to deserve particular Notice. Even *Newfoundland*, though a large Island, is very little known, and affords us nothing curious or entertaining but its Fishery above described. The *American* Islands of the greatest Importance are that vast Number call'd the *Antilles*, which lie at the Entrance of the Gulph of *Mexico*, extending from the Coast of *Florida* to that of *New Andalusia* in *Terra Firma*. Some call them the *Caribbees*, from the first Inhabitants; but this is a Denomination that most Geographers confine to the *Leeward Islands*. *Cuba*, *Hispaniola*, *Porto Rico*, and *Jamaica*, are call'd the *Great Antilles*; the last of which is possess'd by the *English*, the
three

three others by the *Spaniards*. The most considerable of the *Little Antilles* are *Barbadoes*, *St. Christopher's*, *Nevis*, *Antegoa*, *Montserrat*, *Anguilla*, and *Barbuda*, possess'd by the *English*; *Guadaloupe*, *Martinico*, *Marigalante*, *Santa Cruz*, *St. Bartholomew*, *St. Lucia* and *Granada* by the *French*; *St. Eustatia*, *Saba*, *Bonaires*, *Curassow*, and *Oruba*, by the *Dutch*; and *La Trinidad*, and *Margarita* by the *Spaniards*.

THERE is one large Island, or rather several at the South Extremity of *America*, which deserves to be mention'd, though we are not much acquainted with it, except its Coasts, viz. *Terra del Fuego*, which is separated from the Continent by a Streight above a hundred Leagues in Length. The Breadth of this Streight is in some Parts not more than three or four Miles, though in others it is considerably broader; and in it there are many safe Bays and Harbours, where Ships may ride at Anchor without Danger, though the Passage in general is difficult, and seldom used by modern Navigators. It is a mountainous, rough, uneven Country, though it has some fertile Plains and Vallies, and is water'd by fine Springs that fall from the Mountains. The Country has its Name, which signifies the *Land of Fire*, from the Volcanoes observ'd in it, from whence vast Quantities of Pumice-stone are thrown up, and seen floating on the Sea at a great Distance. But what is most remarkable hereabouts is the Isle of *Penguins*, so call'd from a large Sort of Bird with a
white

white Head, which breeds there in vast Numbers. These Fowls are as large as Geese, and very fat, and of an excellent Flavour; and it has been conjectured, from the Name, which signifies *white Head* in the old *Celtic*, and in our present *Welch*, that some Parts of *America* were peopled by the Descendants of *Gomer*, the eldest Son of *Japhet*, and Father of the *Celtic* and *Welch* Nation.—As to those on the Western Coast, they are parted from the Main Land but by narrow Channels, the two most considerable of which are call'd *Madre de Dios*, by some *Santa Trinidad*, and the other *Chiloes*. The former is supposed to have been so call'd on account of three Mountains or Head-lands that are to be seen at some Distance. The Natives of *Madre de Dios* call it *Catana*, the Soil of which is barren and wild, bearing very little Grain, except some *Indian* Wheat; and in short the Face of the whole Country is very dismal, being scarce ever cover'd with Verdure, but blasted by stormy Winds, and parch'd for Want of Water. The Natives are said to go naked, except their Middle; to live chiefly upon Fish, and scarce to drink any other Liquor than the Oil they press from the Sea-Wolves, which will be described hereafter.

THE Natives of *Terra del Fuego*, or what is properly so call'd, are naturally as white as the *Europeans*, but go naked, and paint their Bodies with great Variety of Colours, chiefly red, every one according to his Fancy. They are

tall, stout, and well-shaped, but wear their black Hair thick and long, which gives them the greater Appearance of Fierceness. The Women also paint their Bodies, but cover their Middle with a Piece of Leather, and wear Collars of Sea-Shells about their Necks; and some of them throw a short Cloak of Seal-skin about their Shoulders. Their Huts are made of Wood, are mean, narrow, and terminate in a Point like a Pyramid. Their Furniture is answerable to the Habitation, consisting chiefly of such Tools as they use to catch their Fish with, amongst which (it is said) the Hooks are of Stone, and yet made in a very curious Manner. Their Darts are likewise arm'd with Stones, or sharp Bones, and bearded like ours, that they may be extracted with the more Difficulty. Their Canoes are commonly of the Barks of Trees, so neatly bent and sewn together as to resemble the *Venetian* Gondola's. They are from ten to sixteen Feet long, about two Feet wide, are capable of containing six or eight Rowers, and move on the Water with surprising Swiftmess; neither are the Men or Women (says our Author) in Danger of drowning, they swimming as naturally as the Fishes themselves.

WITH respect to their Nature and Way of living, they are as wild and brutish as can be imagined, having not the least Sense of Religion, and feeding upon human Flesh with the same Fierceness as Wolves or Tigers. This Cha-

Character indeed does not seem applicable to them all, but only to those that inhabit the Southern Side of the Country, about the Bay of *Nassau*; for *Bauchene Gwynn*, whom Capt. *Rogers* quotes, and who sail'd through the Straights of *Magellan* in 1699, represents them as a poor harmless and affable People, who go in Companies of fifty or sixty, and appear to be more miserable than the meanest Beggars in *Europe*, having nothing about them but a short close Jacket made of the Skin of some Beast, and reaching no lower than the Knee. This Account may possibly be true, and yet no absolute Contradiction to the Character that other Travellers give of these People; for perhaps this pretended Affability might only be made use of to decoy the *Europeans* out of their Ship, in order to secure as many of them as they could. This was the Case with some Sailors belonging to the *Eagle*, who being come ashore for Water and Ballast were overpower'd and murder'd by the Inhabitants of this Country: So that they may be look'd upon, notwithstanding their seeming Hospitality, as a dangerous Sort of Savages, without Government or Humanity.

FROM the Southern Part of *America* it seems natural for us to pass to the Western Side, where we scarce find any Island worth Notice, except that of *Juan Fernandez*, of which we have a good Account from *Pascoe Thomas*, who lately sail'd round the Globe in the *Centurion* with Admiral *Anson*. This Island, he tells us,

is generally touch'd at for Refreshments by all *European* Ships that come into those Seas in an hostile Manner, and takes its Name from one *Juan Fernandez*, a *Spaniard*, its first Discoverer, who got a Patent for it from the Viceroy of *Cbili*; and attempted to make a Settlement on it, but without Success. It is therefore still uninhabited, but is a very convenient Place of Rendezvous and Relief to such Ships as cruize on the *Spaniards* in those Parts; for the Southerly Winds prevailing most of the Year on the Coasts of *Cbili* and *Peru*, all the rich Ships that sail from *Lima* in *Peru* to any Part of *Cbili*, as several do in the Month of *September*, must run far Westward to meet with variable Winds, and so commonly fall in within Sight of this Island; so that Ships at the Island, or any where cruizing between it and the Continent, can scarce fail of the desired Success.

As you come into the Bay at the North-East End of the Island, it appears to be a Heap of irregular craggy Mountains; one of which, known by the Name of the *Table Land*, lying behind and higher than all rest, almost perpendicular from Top to Bottom, is just opposite to the Middle of the Great Bay in which you anchor, and ends in a Ridge at top near a Mile long. Near the Middle of this Ridge, tho' not in the very highest Part of it, stands a large and lofty Mountain Cabbage-Tree, to be seen plainly from the Bay, and much farther; which Tree, says our Author, several have attempted
to

to climb up to and cut down, but have not succeeded, nor does he think it can ever be effected. There are many more of these Trees in this Island, as well as in others that lie on the Coast of *America*, and also on the Continent; which having mention'd in this Place, a short Description of it will not be improper.

Mr. *Smith* says, the Mountain Cabbage-Tree has been strangely misrepresented by most Authors, and therefore he shall describe it as it really is. People in *England* (says he) run away with a Notion that these Trees grow to sixty Feet in Height; that they bear a Cabbage exactly resembling ours in Colour, Shape, and Taste, but vastly exceeding them in Bulk, as being larger than a *Winchester* Bushel; and that their Bodies serve for Posts in the Sugar Mills. For his Part, he saw none at *Nevis* that exceeded thirty Feet in Height, though he allows they grow to sixty in *Jamaica*, as well as at *Porto Rico*. However, Mr. *Smith* thinks the Top of the Tree is very improperly term'd a Cabbage, it being about three Feet long, no thicker than a Man's Wrist, of a palish green Colour, a little piked just at the End, and growing from the Trunk of the Tree among the Boughs. This, continues he, is cut in two in the Middle, and six such being tied together resemble a short green Faggot, and is sold in the Market at *Nevis*. The hard Outside of this Stick, as our Author would chuse to term it, is taken off; and then the softer Inside, or Pith, some-

what more than an Inch in Diameter, is boil'd instead of Turnips, Cabbage, &c. and eaten with Mutton, Pork, or such-like Meat. It tastes something like the Bottom of an Artichoke, but has much a finer Flavour.

THAT the Bodies of these Trees are almost thick enough for Mill-posts, Mr. *Smith* does not deny, but insists that the Wood is much too porous; and he gives this good Reason for his Opinion, that the People of *Nevis* and *St. Christopher's* would not have purchased Iron-Wood and *Lignum Vitæ* at a dear Rate from distant Islands for such Uses, if Cabbage-Trees, which they might have had for cutting down and carrying home only a few Miles, would have served the same Purpose. Upon the whole, our Author imagines these Cabbage-Trees are wild Cocoa's that do not bear Nuts, for in all other Respects they resemble them exactly; and *Pascoe Thomas* is of the same Opinion, accounting for the Barrenness of some of those Trees from the Difference of Soil, Climate, or other Cause; it being, as he observes, an indisputable Truth, that many Fruit-trees, which produce plentifully in one Climate, will never bear in another. This last mention'd Writer acquaints us, that the Structure of the Cabbage, as we call it, is admirably curious, especially its innermost Parts, which are so beautifully folded as to surpass any Description he could give of it; and it so far exceeds the Taste of ours, as to admit of scarce any Comparison.

THE highest of the Cocoa's that bear Nuts, that Mr. *Smith* ever saw, might be about forty Feet, including both Body and Branches, which always shoot upwards and spread from the Top of the Body; so that he supposes the Body to be thirty Feet, and the Boughs ten. The Shape of the Body is remarkable enough, being of an equal Thickness at Top and Bottom, but somewhat smaller in the Middle; its Bark smooth, and the Colour a pale Brown. The Boughs are of a lively Yellow, strait, and tapering like a Fishing-Rod, having two Rows of narrow Leaves, though a Foot long. The Nuts hang at the Top of the Trunk in Clusters, weighing fifteen or sixteen Pounds, and are held together by a very tough stringy Substance. What our Author relates of this Tree is very singular, *viz.* that its Body is as big when it first rises out of the Earth, as when it is thirty Years old; and he himself has seen them thicker than his Body, when they were but three Feet high. The Boughs, he observes, are secured together at Bottom by brown stringy Threads, about the Size of ordinary Pack-thread, interwoven together as regularly as any coarse Linen.—These Particulars we thought necessary to add to our former Account of this Tree, to make it the more compleat.

To what we have formerly said of the Cacao-tree, or that which bears the Chocolate-Nuts, it is likewise proper to add some Observations of other Writers. Mr. *Smith* says it nearly resembles

seembles our *English* dwarf Apple-tree, both in Body and Boughs; but the Leaf, which is of a deep Green, is considerably larger and longer. The Nuts, which are of the Colour, and about the Size of an Almond-Kernel, hang fifteen or sixteen together by a small Film, inclosed in a Pod shaped like a large Cucumber. This Pod, when thoroughly ripe, is of a beautiful yellow Colour, and streaked in several Places with long blood-red Spots; but when dried it turns to a deep-brown Colour.—Others tells us that each Pod contains from twenty to thirty Nuts, and that a thriving Tree generally yields from two to eight Pounds of Nuts in a Year; which, when ripe, are cut down and laid in Heaps to sweat for three or four Days in the Pods, then taken out, cover'd with Plantain Leaves, and so left to sweat a Fortnight or three Weeks longer. After this they are dried three or four Weeks in the Sun, and then become of a reddish Colour. The Order in which the Trees are planted is like that of our Cherry-Orchards, and a Plantain is placed by every Cacao-tree, because it delights in Shade. They begin to bear at three, four, and five Years old, and come to Perfection in fifteen Years; but they frequently die before that Time. However, they are the most profitable Trees in the World to cultivate, one Acre of them in *Jamaica* (from whence we receive more Nuts than from all the rest of our Plantations) having cleared above two hundred Pounds in a Year.

BUT

BUT to return to the Island of *Juan Fernandez*: As soon as you are landed, says *Pascoe Thomas*, and got over the stony Beach, you enter into beautiful Groves, chiefly composed of pretty large Myrtle trees, which yield a fine Scent, and form agreeable Shades, the greatest Thickets being entirely free from Thorns, Brambles, or any Impediment of that Nature. Several of these Groves are naturally form'd into Circles, Squares, Triangles, and other Figures both regular and irregular, wildly indeed, but surprizingly charming and delightful; especially if we add to these Beauties the gentle Murmurs of the neighbouring Rivulets, and the Musick of the Birds among the Branches. The Soil of this Island being continually increased and improved by the Fall of Leaves from the Trees, and even of the Trees themselves, which rot and enrich it, is the best and fattest our Author ever saw, and he doubts not would produce, in the greatest Abundance, all Sorts of *European* Fruits, Grains, Herbs, or Flowers, either for Profit or Delight. Turnips there are in great Plenty, which he supposes were first planted there by the *Spaniards*, and the Seeds in Process of Time dispersed by the Wind into different Parts of the Island. According to this Description of it, one would wonder such a delightful Spot is not inhabited.

As to the Animals of this Island, besides the Humming-Bird, (which has been sufficiently spoken

spoken of already) our Author mentions a most beautiful red Bird, not quite so big as a Goldfinch, and the Colours of its Head so gloriously intermix'd and glowing like Gold against the Sun, that it surpasses all Description or Imagination. The Variety and Irregularity of its Notes are as pleasing as the Beauty of its Feathers; and these Birds are numerous and familiar, as not seeming to apprehend any Danger.

ALL the Land Animals our Author either saw or heard of during his Stay at *Juan Fernandez* were Goats, Dogs, Cats, and Rats. The Dogs he supposes were set ashore there by the *Spaniards* to destroy the Goats, that their Enemies, who touch at that Island, might be deprived of that Support; but however, if so, they have fail'd their Masters Expectations, being, as far as he observ'd, afraid to venture on the Goats, who defend themselves and keep the Dogs at a distance. How the Dogs subsist is therefore surprizing; for supposing them to kill some few Goats, Cats, and Rats, that seems to be insufficient for their Numbers, unless perhaps they live upon some amphibious Animals that frequent the Coast. The Dogs are of several Species, some of the Greyhound, some of the Mungrel, and some of the Mastiff Breed.

THE amphibious Animals are Seals and Sea-Lions. The Seals are about the Bigness of a small Spaniel, mostly black, but some grey, with very fine Furs. The old ones make a Noise like the Howling of Dogs, and the young ones

ones like the Bleating of Lambs. Their Head and Body are shaped much like those of a Dog, and are therefore by some call'd Sea-Dogs, and by others Sea-Wolves. It seems they are very harmless Creatures, and easily kill'd by a Blow or two on the Head with a Stick. They are exceeding fat, and are tolerable Food when the Fat is taken off, otherwise they have a strong fishy Taste.

As for the Sea-Lions, so call'd either from the Resemblance of their Head to that of a Lion, or from their roaring like that Animal, it is somewhat strange how they came by the Name, for in neither Respect do they bear any Similitude to a Lion. Mr. *Thomas* says they have a Head more like a Hog's than any other he can compare it to, though not altogether alike; and the Noise they make is much the same as that of a Hog, in all its different Modulations, but a great deal louder, for in a still Night they may be heard at three or four Miles Distance. When they lie down they look like a Log of Wood, and are scarce to be distinguish'd from the Rocks amongst which they lie, till you are very near them; but then they rear themselves up on their hinder Parts, appear exceeding fierce, make a threatening Noise, and then, if ever, bear a Resemblance to the Figure of a Lion rampant: However, notwithstanding this menacing Attitude, if you throw a small Stone or two at them, or give them a Blow on the Head with a Pole, they will retreat,

treat, and if pursued are glad to take Refuge in the Water. Some of them weigh fifteen or sixteen Hundred Weight, and are so unwieldy and indolent, that they lie for Months together in or near the same Place; but our Author supposes that at a certain Season of the Year they retire to the Sea, where it is more than probable they get their Food, being never observ'd to feed on any thing ashore; and then he thinks the Dogs above-mention'd must have a hard Time of it, as he believes they subsist chiefly by surprizing and devouring the Young of these Creatures. He adds that they kill'd several to make Oil for the Use of the Ships, for which their Fat or Blubber is very proper; and after that is taken off, their Flesh eats indifferently, but their Hearts, Livers, and Tongues are extremely good Eating. The Seamen, who kill'd many of the young ones for eating, call'd them Beef, and the young Seals Lamb. They have Fins somewhat like those of a Seal; and, what is very remarkable, the He-ones have a Flap hanging down before like a Turkey-cock.

OF Fish, continues Mr. *Thomas*, there are vast Quantities of several Species about this Island, as Cod, Snappers, Breams, divers Sorts of Flat-fish, and many others, some weighing a hundred Pounds and upwards, all which they took by a Hook, and were a great Refreshment to those who remain'd of the Ship's Company, after such a dreadful and fatal Passage as few Persons ever experienced. In the Bays of the Island,

Island, he farther observes, there are the largest Sharks he ever saw, and that they fight with the Sea-Lions, and no doubt frequently kill them.—As to Insects, our Author only takes notice of Spiders, which weave very strong Webs between the Trees, and which probably are of the same Species mention'd by *Rogers* and other Travellers, and particularly by Mr. *Stafford* (in *Phil. Trans.* N°. 40.) who says that in *Bermudas* the Spiders spin their Webs between Trees that stand seven or eight Fathoms asunder, which when finish'd will ensnare a Bird as big as a Thrush.

It is now Time to leave the pleasant little Island of *Juan Fernandez*,, and come to speak more particularly of the *Antilles*, with which we are better acquainted, as many of them are peopled by Colonies from our own Country, and other *European* Nations. Of these Islands *Hispaniola* and *Cuba*, being much the largest, seem to require our first Attention; though we shall not find much in them so curious as to detain us long in the Description. *Hispaniola*, or *St. Domingo*, (as it is otherwise call'd) belongs partly to the *French*, and partly to the *Spaniards*; and is allow'd to be as fruitful and as pleasant as any in that Part of the World, having vast Forests of Cabbage-trees, Palms, Elms, Oaks, Pines, &c. besides great Variety of Fruit-trees, whose Fruit is more lovely to the Eye, and better tasted, than in many of the neighbouring

Islands; such as Grapes, Oranges, Citrons, Apricots, and many others, whose Names it is needless to mention. Here are all the Birds common to the *West Indies*, the Meadows are fill'd with innumerable Herds of Cattle, and the *French* Part of the Island has Horses enough to supply all the adjacent Colonies. There is scarce a Country in the World better water'd by Brooks or navigable Rivers, which abound with Fish, and Gold-Dust is found in some of their Sands. It is said there are also Mines of Gold and Silver, which, though formerly wrought, the *Spaniards* have found themselves too weak to carry on for their own Advantage, and take all the Care that can be to conceal them from others. The chief Commodities of the Island are Hides, Sugar, Indigo, Cotton, Tobacco, Wax, Honey, and various Kinds of Drugs and Dyers Wood. The *French* in particular, since their Settlement here, have very much improved their Sugar-Plantations; and they are now reckon'd equal if not superior to the *Spaniards* in Numbers, though both together, with all their Slaves, are very far short of what an Island of such Extent and Fertility is capable of maintaining.

THE Soil of *Cuba*, if we except the Ridge of Mountains that runs through the Island from East to West, is generally very fruitful, and produces all the Commodities known in our *American* Islands, such as Ginger, Long-Pepper, Mastich, Aloes, and various other Drugs and Spices,

Spices. Its Woods consist of large Cedars and other odoriferous Trees, Oaks, Pines, Palm-trees, Cotton-trees, Vines, &c. and there are Mines of Copper, if not of Gold, the Dust whereof is found in the Sands of the Rivers, as well as in *Hispaniola*. This Island has many Conveniencies belonging to it both for making Salt and catching Fish; and its Shores abound with Sea-Fowl, particularly a Sort of Cranes, which are white when young, but when old are of several Colours. It has Plenty of Horses, Sheep, Wild Boars, Hogs, and Cattle of a larger and better Breed than most Parts of *America*, which have multiplied to such a prodigious Degree since they were first brought hither by the *Spaniards*, that many of them run wild in the Woods, and are kill'd purely for their Hides, in which Business the Negroes are employ'd. Hides therefore make a great Branch of the Trade of the Island; and abundance of Tobacco, both in Leaf and Snuff, commonly call'd *Havanna* from the chief City and Port of *Cuba*, are exported thence to *New Spain* and the *South Sea*, besides what is sent to *Europe*. Upon the whole, it is a fine Island, and its Capital just mention'd is perhaps a City of the greatest Strength and Importance to the *Spaniards* of all they possess in *America*, being the Place of Rendezvous for their Fleets in their Return from that Part of the World to *Europe*, and lying at the Mouth of the Gulph of *Florida*, through which they are obliged to pass; so that

the *Spaniards*, not without Reason, call it the *Key of the West-Indies*.

HERE we ought just to take notice of *Porto Rico*, the third of the *Great Antilles* possess'd by the *Spaniards*, though much less than either of the former. This is likewise divided by a Chain of Mountains from East to West, and is tolerably well water'd with Brooks and Rivers. The North Part, which is not so fertile as the South, has been reported to have Mines of Quicksilver, Tin, Lead, and some of Gold and Silver; but there are none of the latter wrought at present, nor were there ever any considerable ones in the Island, though its Rivers are not without Gold-Dust among their Sand and Gravel. It has Plenty of good Ship-Timber, and Variety of Fruit-trees, such as are common to it with the neighbouring Islands; and like those it has great Flocks of Parrots, Wood-Pigeons, and other wild and tame Fowl, with all manner of *European* Poultry. Its Coasts abound with Fish, and here are a Sort of Land-Crabs that burrow in the Ground like Rabbits, of which we shall speak more hereafter. Its principal Commodities are Sugar, Hides, Cotton, and several Sorts of Drugs; also Salt, and Oranges and Lemons, both as Fruit and in Sweet-meats.

THE next and last of the *Great Antilles* to be described is *Jamaica*, a flourishing Island now possess'd by the *English*, and which should have been mention'd before *Porto Rico*, as being larger

larger and more valuable, but that we chose to speak of the *Spanish* Possessions together. Sir *Hans Sloane* and Dr *Stubbs* will furnish us with almost every thing that is curious relating to *Jamaica*, which, like the Islands above mention'd, has a Ridge of Hills running through it, besides others scattered over the Country, that give Rise to abundance of fine Rivers stored with Fish of various Kinds, but scarce any of them navigable except by Canoes, wherein Sugars and other Goods are carried from the Plantations to the Sea-side, and from thence in Schooners and Sloops to *Port Royal* and *Kingston*, there to be shipp'd for *England*. This is occasion'd either by their falling too precipitantly from the Mountains, or the Shortness of their Course: Besides, they often carry with them great Stones or Pieces of Timber, and generally much Clay or Earth, which fouls the Water, and gives it a copperish Taste, though it proves good enough after settling some Days in earthen Jars. In dry Years fresh Water is very scarce at a distance from the Rivers; and the Well-Water near the Sea, as at *Port Royal*, is brackish and unwholesome. There are some Springs, as well as Rivers, that are remarkable for their petrifying Quality; and near *Point Morant*, at the South-East Corner of the Island, Sir *Hans* says there is a Hot Bath in a Wood, whose Water has been tried with great Success, by drinking as well as bathing in it, for the Cure of the Belly-ach, the common Disease of

the Country. In another Place there are a great many Salt Springs, which being united form what is call'd the *Salt River*. Salt is made at *Jamaica* in Ponds, whereinto the Sea-Water comes, and the Water being exhale'd by the Heat of the Sun, the Salt is left at the Bottom. Nor ought we to forget a remarkable Lake in this Island, which receives abundance of Water from a River without any visible Outlet.

THE Mountains of *Jamaica* are most of them crown'd with Trees of a thousand different Species, ever verdant, forming Groves and cool Retreats, and irregularly mixing their Branches in a gay Sort of Confusion; the Cedar and other tall Trees rearing their lofty Heads, and the *Lignum Vitæ*, Mahogany, and numberless others, thriving under their friendly Shade. The Valleys too are generally verdant, being refresh'd with so many Streams; but their greatest Beauty consists in the Plantations that adorn them, laid out with the nicest Art, and producing as choice and valuable Plants as any in the Universe, particularly the *Sugar-Cane**, of whose

* It is a Question not yet decided among Botanists, whether the Ancients were acquainted with this Cane, and whether they knew how to express its Juice. All that we can gather from the Arguments advanced on either Side is, that if they knew

the Cane and the Juice, they did not know the Art of condensing, hardening and whitening it, and consequently knew nothing of our Sugar. *Salmasius* however assures us, that the *Arabs* have used the Art of making Sugar, such as we now have it,

Culture,

Culture, the Preparation of Sugar, &c. we shall here give an Account, which may serve likewise for *Barbadoes*, *Antegoa*, *Nevis*, and the rest of our Sugar-Islands; for not only the Commodity, but the Manufacture of it, is in all of them much the same.

THE Reed or Cane, which yields us such an agreeable Juice, is like those others we see in Morasses and on the Edges of Lakes, excepting that the Skin of these latter is hard and dry, and their Pith void of Juice, whereas the Skin of the Sugar-Cane is soft, and the spongy Matter or Pith it contains is very juicy, though that in a greater or less Degree according to the Goodness of the Soil, its Exposure to the Sun, the Season it is cut in, and its Age; which four Circumstances contribute equally to its Goodness and its Bulk. It usually grows to the Height of six or seven Feet, sometimes higher, exclusive of the long, green, tufted Leaves at top, from the Middle whereof arise the Flower

above eight hundred Years. —Another Question among Naturalists is, whether Sugar-Canes be originally of the *West Indies*, or whether they have been translated thither from the *East*. The Learned of the last Ages have been much divided on this Point; but since the Dissertation of Father *Labat*,

publish'd in 1722, there is no longer Room to doubt but that the Sugar-Cane is as natural to *America* as *India*. All that can be said in favour of the latter is, that the *Spaniards* and *Portuguese* first learnt from the Orientals the Art of expressing its Juice, boiling it, and reducing it into Sugar.

and

and the Seed. The Stem or Stalk is divided by Knots or Joints, from whence likewise shoot out Leaves, but these usually fall as the Cane rises; and it 'is a Sign either that the Cane is not good, or that it is far from its Maturity, when the Knots are seen beset with Leaves. The Cane is yellowish when ripe, and about an Inch in Diameter; and its juicy Pith is then eaten freely, being very nourishing and wholesome if taken with Moderation. The Tops of the Canes are likewise very good Food for Horses and Black Cattle*.

THE Ground fit for Sugar-Canes is that which is light, soft, and spongy, lying on a Descent proper to carry off the Water, and well exposed to the Sun. The usual Manner of planting them is by digging long Trenches, about six Inches deep and as many broad, and about two Feet distant from each other, laying a double Row of Canes along them from End to End. From every Knot of the Canes thus laid down in the Furrows shoots up another Cane; and these young ones grow to the Height of eighteen or twenty Inches in about twelve

* Mr. *Smith* tells us, that the bottom Part of the Sugar-Cane Top is about the Thickness of one's Finger, and that at *Newis* they cut it into Pieces about an Inch and a half long, to give to their Horses, being a very

heartning Food, and fattening them apace. They also give them the Skimming of the Sugar Coppers; but that must be done sparingly at first, for fear of griping and perhaps killing them.

Weeks

Weeks time, but do not arrive to Maturity till they have been a Year or fifteen Months in the Ground. The next Care of the Planter is to keep his Canes free from Weeds, and to observe whether any of his Roots have fail'd, that the Trenches may be supplied in time with others; for the Crop being, by a Neglect in either Case, partly ripe and partly green at the same Time, they cannot well be separated without more Labour than they are worth, and then the Planter burns them as they stand. By this means indeed he loses a Crop, but he does not lose his Planting; for the Fire not touching the Roots, they soon shoot out again, the Soil is much better'd, and Swarms of Rats destroy'd, which often do great Damage in these Plantations. The present Practice is to dung the Canes, either when they are planted, or when they come to be two Feet high; and this is the Planter's greatest Trouble and Expence, for, were it not for this Dunging, much fewer Negroes would be required.

WHEN the Canes are ripe, they are cut up one at a time by a proper Instrument, being too large to be mowed by a Scythe; and as they cut them, they trim them and chop off the Tops, which, as above intimated, they reserve for their Cattle. The Canes are then bundled up in Faggots, and carried to the Mills, which are very curious Machines, contrived to bruise them and express the Liquor or Juice therein contained. These Mills are composed of three
wooden

wooden Rollers covered with Plates of Iron, and are of four Kinds, being turned either by Slaves, Water, Wind, or Cattle. Those turn'd by the Hand were first in Use, but are now laid aside, as being an intolerable Hardship to the poor Negroes who were doom'd to that Work, besides the Slowness of their Progress. Wind-mills are the most modern, and are not yet very common, except in *Barbadoes* and *St. Christopher's*, and among the *Portuguese*. These make good Dispatch, but have this Inconvenience, that they are not easily stopp'd, which proves sometimes fatal to the Negroes who feed them.

THE Juice coming out of the Canes, when press'd and broke between the Rollers, is conveyed by a leaden Canal into the Sugar-house, which is near the Mill, where it falls into a Vessel, and thence runs into a Copper or Cauldron, to receive its first Preparation, only heated by a slow Fire to make it simmer. With the Liquor is here mix'd a Quantity of Ashes and Quick-Lime; the Effect of which Mixture, together with the Action of the Fire, is, that the unctuous Parts are separated from the rest, and raised to the Top in the Form of a thick Scum, which they keep constantly taking off, and serves to feed Poultry, Horses, &c.—The Juice in the next Place is purified in a second Copper, where a brisker Fire makes it boil; and all the time the casting up of the Scum is promoted by means of a strong Lye composed of Lime-water and

and other Ingredients.—This done, it is purified in a third Boiler, wherein is cast a Lye that assists in purging it still farther, making its Impurities rise to the Surface, whence they are taken with a Skimmer.—Hence it is removed to a fourth Boiler, where it is farther purified by a more violent Fire ; and hence to a fifth, where it is brought to the Consistence of a Syrup.—In a sixth Boiler the Syrup receives its full Coction ; and here all the Impurities which the former Lyes had left are taken away by the Injection of a new one, and a Water of Lime and Alum. In this last Copper there scarce remains a Third as much as was put into the first, the rest being wasted by the frequent Boilings and Skimmings.—It is to be observed, that the Size of the several Coppers always diminishes from the first to the last, each being provided with a Furnace to give a Heat proportionable to the Degree of Coction the Juice has received. In some large Sugar-works there are also particular Coppers for boiling and preparing the Skimmings for farther Uses.

By thus passing successively a Number of Coppers, the Juice of the Canes is purified, thicken'd, and rendered fit to be converted into any of the Kinds of Sugar hereafter mention'd, which are all prepared in the *American* Islands. According to F. *Labat* these are, 1. *Crude Sugar*, or *Moscovado*, which is that first drawn from the Juice of the Cane, and whereof all the rest are composed. The Method of making it

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is that already described for Sugars in general ; but here we may add, that when taken out of the sixth Copper it is put into a Cooler, where, after stirring it briskly together, it is let stand to settle, till a Crust, as thick as a Crown-piece, is form'd thereon. The Crust being form'd, they stir it again, then put it into Vessels, where it stands to settle till it be fit to barrel.

2. *Strained Sugar*, though somewhat whiter than the former, is prepared in the same Manner, with this Difference, that to whiten it they strain the Liquor through Blankets as it comes out of the first Copper ; which Invention is owing to the *English*, who likewise put the Sugar into wooden Forms or Moulds, and, when it has purified itself well, cut it in Pieces, dry it in the Sun, and barrel it up.

3. *Earth'd or Clay'd Sugar* is that which is whitened by means of Earth laid on the Top of the Moulds it is put into to purge itself, and after a long Process (too tedious to be here related) it is form'd into Loaves and baked, then pounded with huge wooden Pestles, and put up in Barrels. This is the white Powder Sugar.

4. *Refined Sugar* is boil'd and freed from its Impurities by throwing in Lime-water, Eggs, and other Ingredients, which the earthed Sugar is not ; in other Respects the Process is much the same, only more Care and Exactness is used, and the refined Sugar is drier and whiter.—Several other Sorts of Sugar might be mention'd, but these seem

seem to be the chief that are prepared in the Sugar Islands*.

BUT we must not forget to mention another Commodity produced from the Juice of the Sugar-Cane, viz. Rum, a spirituous Liquor well known amongst us, and distill'd in great Quantities in *Jamaica* and *Barbadoes*. The particular Process of this Distillation we shall not attempt to describe, but only observe, that *Jamaica* had for many Years produced fine Sugars before the Planters knew how to make Rum; but having learnt the Art from those of *Barbadoes*, they are now reckon'd to excell them in that Commodity.

To this Account of the Sugar-Cane and its Produce perhaps it will not be amiss to subjoin a few Observations on the Qualities of Sugar. *Hoffman*, speaking of Sugar, says, that it is a temperate Salt, and friendly to Nature; but, however, it has been a Point much disputed,

* Here it seems proper to add, (what should rather have been observ'd before) that in *Canada* and *New-England* they obtain a Species of Sugar from the Juice of a Kind of Maple-tree, by boiling it till ten Gallons are reduced to a Pint and a half, and then keeping it stirring to prevent its candying. A good Tree, Mr. *Dudley* tells us, will yield twenty Gallons of

Juice; and the Physicians look upon the Sugar to be as good for common Use as that of the Sugar-Cane, and to exceed all others in its medicinal Virtue. The famous Syrup of Maiden-hair of *Canada* is made with this Sugar; which, as brought to us, is of a greyish Colour, and tastes like other Sugar. —See *Phil. Transf.* N^o 171 and 364.

whether in general it is wholesome or otherwise. According to some it is heating, emollient, resolvent, purgative, and calculated to resist Putrefaction; good for the Stomach, Breast, and Lungs; promotes Expectoration, softens internal Tumors, cleanses Ulcers of the Kidneys, Bladder, and Intestines, and hinders all corrosive Substances from acting easily on the internal Parts. According to others it is injurious to scorbutic, hypochondriac, hysteric, and feverish Patients, if used in considerable Quantities: And others assert, that it impairs the Appetite, weakens Digestion, produces Flatulencies, and generates Gripes and Dysenteries. It is also said to lay a Foundation for the Piles; and some foreign Physicians have ascribed the frequent Consumptions in *England* to the copious Use of Sugar. Whilst some assert that Sugar generates Worms, others are as positive that it destroys them. It is generally agreed however, that the common coarse Sugars foul the cutaneous Glands, and excite scorbutic Spots and Blotches. Rotten Teeth are often the Consequence of using Sugar too copiously, and those who do so are likewise said to be liable to Fevers. It is farther to be observ'd, that Sugar in some Degree differs in medicinal Virtues according to its Degree of Fineness; the *Moscovado*, or that first procured from the Cane, being more relaxing and purgative than the finer Sugars. Loaf-Sugar is said to animate the Blood, to cut Phlegm, and promote Expectoration.

ration. Sugar-candy is most proper in Colds, as it melts slowly in the Mouth, and thereby gives Time for the *Saliva* to mix with it, and thus to blunt the Acrimony of the Phlegm.

THE Culture and Management of *Indigo* was formerly a very considerable and profitable Business in *Jamaica*, where the Plant grew in greater Plenty than in any other of our Colonies; insomuch that (according to the Account of a Gentleman who resided a good while in that Island) the Profits of the Planters of it in the Parish of *Vere*, where it was chiefly cultivated, were so great, that there used to be three hundred Gentlemen's Coaches at the Parish-Church on a *Sunday*. But whether it be owing to the Want of Seasons, or to the high Duties laid on that Commodity, (which the Planters say was the Case) at present there is not a Stalk of *Indigo* to be found in that Parish, nor any other Vestiges of its former Prosperity. The Duty laid by our Legislature on *Indigo* was three Shillings and Six-pence a Pound, which could be born when a Pound Weight of it was worth ten Shillings, but on its falling to four Shillings was insupportable. We became sensible of this too late, and took off all Duty upon *Indigo* of our own Growth; and there have been some Attempts of late to revive this Manufacture in *Jamaica*, but without Success, the People there having lost the Art. Indeed, in the Year 1743 Mr. *Macfarlan* made a small Quantity of very good *Indigo* in the Parish of

St. Thomas in the Vale; but we cannot learn whether he has since prosecuted his Design. However, it is pretty certain, that most of the Indigo at present imported from our Sugar-Colonies is the Produce of the neighbouring *French* and *Spanish* Plantations.

THE *Cacao-Tree*, of which there are many Walks or Plantations in *Jamaica*, has been abundantly spoken of already; and therefore we need say no more of it here, but proceed to the Description of the Tree that produces the aromatic Spice call'd *Pimento* or *Jamaica Pepper*, which grows plentifully on the hilly Parts of that Island. According to Sir *Hans Sloane* the Trunk of this Tree is as thick as a Man's Thigh, rising straight up to the Height of about thirty Feet, cover'd with a very smooth Skin of a grey Colour, and branching out on every Side. The Ends of the Twigs are set with Leaves of several Sizes, the largest being four or five Inches long, and two or three Inches broad in the Middle, from whence they decrease towards each Extremity. They are smooth, thin, and shining, of a deep green Colour, without any Incisures, and stand on long Foot-stalks. When bruised they are very fragrant, and in all Things resemble the Leaves of a Bay-tree*.

* Mr. *Smith* says the only they are of a much Leaves of the *Jamaica Pepper-tree* can scarce be distinguished from Bay-leaves, stronger aromatic Smell. In *Nevis*, and we suppose in other Islands where it grows,

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The Extremities of the Twigs are branched into Bunches of Flowers, each Stalk sustaining a Flower bending back, within which are many *Stamina* of a pale Green. These are succeeded by Bunches of crown'd Berries, greenish when small, but bigger than Juniper Berries when ripe, and, like them, black, smooth, and shining. They contain a moist, green, biting Pulp, and two large Seeds separated by a Membrane, each of which is hemispherical, and both together form a Globe. These Trees flower in *June*, *July*, and *August*, but sooner or later according to their Situation, and the different Season for Rain; and after they flower the Fruit soon ripens. Where these Trees grow, they are generally left standing when other Trees are fell'd, and are sometimes planted where they never grew, on account of the great Profit from the cured Fruit, which is yearly exported in large Quantities to *Europe*. The curing and preserving this Fruit for Use is attended with no great Difficulty, being usually done by the Negroes, who climb the Trees, and pull off the Twigs with the unripe green Fruit, which they carefully separate from the Leaves and ripe Berries, and then expose them to the Sun for several Days, spreading them thin on Cloths, and

they adorn their Churches as we do our Churches in with small Boughs of it at *England* with Holly and Ivy *Christmas*, the Fruit being at that sacred Season. then green upon them, just

turning them at Intervals, taking care to keep them from the Dews, which are very great in *Jamaica*. By this means they become dry and shrivel'd, and from a green change to a brown Colour, and then they are fit for the Market. They are of different Sizes, but generally of the Bigness of Black Pepper; and having a peculiar mix'd Taste and Smell, somewhat resembling Cloves, Juniper-berries, Cinnamon, and Pepper, they have obtain'd the Name of *All-Spice*. The smallest and most fragrant are accounted the best.—This Fruit is the most temperate, mild, and innocent of all common Spices, and preferable to all the *East-India* Commodities of this Kind, which it far surpasses in promoting Digestion, attenuating Viscidities, moderately heating and strengthening the Stomach, expelling Wind, and doing those friendly Offices to the Bowels which we generally expect from Spices. It is usually sold by the Druggists for *Carpobalsamum*, but it is not that Fruit, and seems more fragrant, and less astringent and balsamic.

THE same learned Author, from whom we have taken the preceding Account of the *Jamaica* Pepper-tree, describes likewise the *Wild Cinnamon-Tree*, which grows in that Island, and whose Bark is commonly sold in the Shops for *Cortex Winteranus*, the Bark of a Tree so denominated from Captain *Winter* who brought it from the Streights of *Magellan* in his Voyage with Sir *Francis Drake*. However, though
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these are Barks of different Sorts, and by their outward Appearance seem quite different from each other, yet the one may be used as a *Succedaneum* to the other, though the true *Cortex* is much to be valued beyond the false, being far more aromatic.—The Trunk of the Wild Cinnamon-tree is about the Thickness of the *Jamaica* Pepper-tree, and rises to the Height of twenty or thirty Feet, having a lovely Top, with many Branches and Twigs hanging downwards. It has an outer and an inner Bark, the former whereof is of an aromatic Taste, as thin as a Shilling, of a grey Colour, with some white Spots here and there upon it, and several shallow Furrows of a darker Colour runningly variously through it. The internal Bark is as thick as a Crown-Piece, smooth, of a whiter Colour than the external, and of a much more biting and aromatic Taste, something like that of Cloves, and not glutinous like Cinnamon, but dry and crumbling between the Teeth. The Leaves grow on Foot-stalks an Inch long, coming out near the Ends of the Twigs without any Order. They are two Inches long, and one broad near the End, where they are roundish, being narrow at the Beginning, and increasing in Breadth almost to the Extremity. They are of a yellowish green Colour, smooth and shining, without any Incisures about the Edges, and somewhat resemble the Leaves of Bay. The Extremities of the Twigs are branch'd out into large Bunches of Flowers,
each

each having a Foot-stalk, and a *Calix* at the Top made up of little Leaves, wherein stand five scarlet or purple *Petala*. These Flowers are succeeded by many caliculated Berries, the Size of a large Pea, being roughish and green, and containing within them a mucilaginous thin Pulp, and four black shining Seeds, of an irregular Figure. All the Parts of this Tree, when fresh, are very hot, aromatic, and biting to the Taste, like Cloves; and it grows on the Low Lands, or *Savannab* Woods, and very frequently on each Side of the Road between Passage Fort and the Town of *St. Jago de la Vega*, as also in *Antegoa* and the other *Caribbee* Islands. The Bark of this Tree is much in Use both in the *English* Plantations and in *Europe*; and it is easily cured, being only cut off and dried in the Shade. The common Sort of People use it in the *West Indies* instead of all other Spices, it being thought good to correct the immoderate Humidities of the Stomach, to help Digestion, expel Wind, &c. It is there, as well as in *Europe*, thought to be a very good Remedy against the Scurvy, and to cleanse and invigorate the Blood, being used for those Purposes by Druggists and Apothecaries under the Name of the *Cortex Winteranus*, which (as before observ'd) it is not, though it may very well supply its Place. In the *West Indies* it is mix'd and given with Steel and other Medicines; but Sir *Hans* says, if the Patient be of a hot Constitution it does more Harm than Good, being

being of a warm Nature. If Rum be mix'd with this Bark, it loses much of its disagreeable Smell; and if it be mix'd with Water, and distill'd *per Vescam*, it yields an aromatic Oil, sinking to the Bottom of the Water like Oil of Cloves.

THE same learned Physician and Naturalist observes, that in *Jamaica* and the neighbouring Islands, as well as on the Continent of *America*, there grow several Sorts of Mistletoe, to which the Doctor gives the Name of *Viscum*, with an Epithet to distinguish the various Species. One of this Family he calls *Viscum Caryophylloides*, from having its Seed-Vessel somewhat like that of a *Clove* *july-flower*. The Branches of this Plant are encompass'd with many brown small Fibres, which take firm Hold of the Bark of the Trees whereon it grows; not indeed like Mistletoe, which penetrates into the Bark or Wood whereon it grows, but only interwoven and matted together, so as to afford the Plant a firm Support. From the Leaves, which grow in the Manner of Leeks, it has obtain'd the Name of *Wild Pine* or *Aloes*. Each of them is two Feet and a half long, three Inches broad at Bottom, and terminating in a Point, having their Insides concave, so as to be capable of containing a pretty deal of Water, which in the rainy Seasons falls upon the uppermost Parts of the spreading Leaves, and is thence convey'd by natural Channels into the Reservatory. The Leaves, after they are swell'd out like a bulbous
Root

Root to form this Bason or Cistern, bend inwards, or come again close to the Stalk, whereby they hinder the Evaporation of the Water by the Heat of the Sun. Below they are of a light green Colour, and like Leeks above; and from the Middle of them rises a round, smooth, strait Stalk, three or four Feet long, that has several Branches, and by Incision yields a clear mucilaginous Gum. The Water thus received in the Cavities of the Leaves is not only necessary for the Nourishment and Life of the Plant, but likewise very useful to Men, Birds, &c. who resort to it to quench their Thirst, and seldom go away without Refreshment. This Vegetable grows on the Arms or Trunks of Trees, especially when they begin to decay, the Bark being then more disposed to receive the Seed, and yielding more easily to the Fibrils of the Root of the Plant.—But what is particularly surprizing in this Plant is the Contrivance of its Seeds, which are oblong, pyramidal, and very small, cover'd with very soft Hairs or Down, that they may be carried by the Wind like the tomentous Seeds of *Hieracium*, *Lyfimachia*, &c. and the more readily stick to the Branches and prominent Parts of the Bark of Trees. As soon as it sprouts or germinates, though it be on the under Part of a Bough, its Leaves and Stalk rise perpendicularly; for if it had any other Position, the Reservatory before mention'd, made by the hollow Leaves, could not be found, nor hold the Water so necessary for
the

the Life and Nourishment of the Plant, and so useful to Men, Birds, and Insects*.

THE *Water-With* of *Jamaica* is likewise very serviceable on the same Account; for Sir *Hans* (as quoted by Dr. *Derham*) informs us, that it grows on dry Hills, and in the Woods, where no Water is to be met with, and its Trunk, if cut into Pieces, and held by either End to the Mouth, affords so plentifully a limpid, innocent, and refreshing Water, as gives new Life to the thirsty Traveller or Hunter: So that the Inhabitants of *Jamaica*, and the other Islands where it grows, look upon it as an immediate Gift of Providence, to relieve them in their Distress.

SIR *Hans* observes farther, that there are several Plants in *Europe* which in some Particulars resemble the *Viscum* above described. Thus, says he, the *Virga Pastoris*, or Wild Teasel, has Leaves inclosing its Stalk, and so set by Pairs opposite to each other, and join'd by their Bases, that they form a Cavity fit to contain Water, which undoubtedly contributes to the perfecting of the Plant. Several *Fuci* have been discover'd to have Seeds, which, when ripe, break out of their Places, and by means of a glutinous Juice fasten themselves to Stones or other Substances at the Bottom of the Sea where they are to grow. The common *Viscum* has such a gloomy Matter for fastening its Seeds to the Bark of Trees; and small Mosses, heretofore

* See more on this Subject in *Vol. III. p. 188, 189.*

thought to have no Seed, are now known to have it in great Plenty, but so very minute, that the Doctor saw it rise from the ripe Head in the Form of Smoke, which undoubtedly is designed that the Seed may be carried to Walls, Trees, and other fit Places for its Vegetation. Sir *Hans* farther observes, that there are many Species of Plants with pappous or tomentous Seeds, which, when ripe, are convey'd by the Wind to Places proper for their Reception. A remarkable Instance of this Kind is the *Aster Canadensis*, which, though brought originally from *Canada*, is now become a wild Plant in many Parts of *Europe*, the Seed having been carried by its Wings or Feathers to a great Distance from the Gardens wherein it was first planted. There are likewise many Plants (continues our Author) with Seed-Vessels so contrived, that they throw off the Seed with a Spring, and sometimes a brisk Noise, to a considerable Distance. Most Plants that have Pods, as Furze, Crane's-bill, &c. have this Mechanism in order to sow themselves; and amongst these none is more surprizing than a Plant in *Jamaica* call'd *Spirit-Weed*, whose Seed-Vessel, when the Seed is ripe, opens itself instantly upon the least Touch of any thing that is wet, and with a Noise throws the Seed several Ways; the Design of Nature being, as the Doctor reasonably supposes, to keep the Seed in its Vessel, the best Preserver of it from Injuries, till the rainy Season comes on, which is proper for sowing.

The

The *Lychnis*, Poppy, &c. have their Seeds in Heads, which being open at top when they are ripe, by their Structure and the Winds are scatter'd and directed to all Quarters.— These and many other Instances, very wonderful and obvious, though not taken notice of, shew the great Endeavours of Nature to propagate the Species, every one of which, the Doctor thinks, has been preserved to us from the Creation to this Day.

IN *Jamaica* they have three Sorts of Cotton-trees, one of which creeps like a Vine, the second is thick like a bushy Dwarf tree, and the third is as tall as an Oak, which last indeed is of no Use in the Cotton Manufacture, but is of very quick Growth, and so thick that they are very frequently scoop'd into Canoes. The creeping Sort we have already taken notice of; and as for the second, after producing many beautiful Flowers, it is loaded with a Fruit as large as a Walnut, whose outward Coat is quite black. It bears Pods five Inches long, which, when full ripe, open and discover a Down extremely fine and white, which is the Cotton. The People gather it as soon as it cracks, and its Seeds are separated from it by a Mill, as heretofore observ'd. The Bark of the Tree is brownish, the Leaves small, and divided into three Parts; and it bears a Flower about the Bigness of a Rose, consisting of five Leaves of a bright yellow Colour, which have several purple Streaks towards the Stem, and a yellow

VOL. IV. N° 53. C c Button

Button or Crown, surrounded with Fibres of the same Colour.

Ginger is another Root that is cultivated in *Jamaica*, shooting forth Blades in Shape like those of Wheat; and when it is ripe the Roots are dug up and scraped by the Negroes, to clear it of its outer Skin, and kill the Spirit, or else it would be always growing. If they have not Hands enough to scrape it, they are forced to scald it; but this is sold much cheaper than what is scraped, which is white and soft, whereas the scalded will be as hard as Wood.

THE *Mastic-tree* is a very hard Timber, and grows to a vast Height; and is generally used, like those call'd *Iron Wood* and *Bully tree*, for Chariot-Wheels and Mill-work.—The *Soap-tree* grows chiefly about *Spanish Town*, bearing Berries as big as Musket-balls, which, without any other Ingredient, is said to wash better than any *Castile Soap*, though in time it rots the Linen; but in reality this is no other than that Species of the *Aloe-tree* that was lately shewn by Mr. *Cowel* at *Hoxton*.

THE *Manchineel Tree* is like our *English Dwarf Apple-tree*, but its Leaves resemble those of the *Pear-tree* in Colour, Shape, and Bigness. The Fruit (according to Mr. *Smith*) is of the Size, Shape, and Smell of an *English Crab*, and, though fair to the Sight, is a very rank Poison, from whence some call it the *Eve-Apple*. There is a thin glutinous Matter about the Sides of the Leaf; and if your Face happen to touch one
of

of them as you ride along the Road, our Author says he knows by Experience it will raise an immediate Blister, which ends in a Scab. Break a Bough, and there issues out a Milk-white Water, which is still more poisonous, and the Fruit more than that. Mr. *Smith* adds, that he was credibly inform'd, that a Manchineel-Stick, with the Bark peel'd of and brought to *London*, will, if one End of it be put into a Pail of new Milk, and stirr'd half a dozen times round, immediately turn the Whole into Curds and Whey; so powerful is the Strength of its Poison, even at such a Distance of Time!

As to the Animals of *Jamaica*, there are few Colonies so well stored with Cattle as this. Their Horses, Asses, and Mules are cheap, their Cows and Oxen large; and there would be much greater Numbers of Black Cattle, but that the *English* mind Planting more than Grazing, which has so lessen'd their Stock of Cattle, that they are supplied with Flesh from the Northern Colonies, and some of the neighbouring Islands. Their Sheep are generally large and fat, and the Flesh good; but the Wool being long and hairy is good for nothing. Goats they have in abundance, and Hogs, whose Flesh is very good; but they have no Deer nor Hares. They have all Sorts of Fowl, both tame and wild, and more Parrots than in any of the other Islands. Pigeons, Snipes, Turkeys, Geese, Ducks, &c. are very common in *Jamaica*;

maica; and they have the Pelican, a Description of which we have formerly given from Sir *George Wheler**. This Bird lives upon small Fish it picks out of the Sea, and roosts at Night on high Rocks, sitting with its Head towards the Wind. It has a very long Neck, cover'd with Hair instead of Feathers on the upper Part, and below it has two membranous Bags or Ventricles, stretching to the Extremity of its under Bill, wherein it reserves its Prey when gorged with eating, or what is intended as Food for its Young. It appears slow and heavy in Flight, but has a piercing Eye to discern the little Fry on which it subsists, and on which it falls down from a considerable Height in the Air, and catches them either on the Surface of the Water or by Diving. The Flesh of it has a fishy Taste, which it loses by being cover'd two or three Hours with Earth.

THOUGH we have already spoken of the *Tortoise* or *Turtle Fish*, it seems proper to add, that the Coasts and Rivers of *Jamaica* abound with the most delicious Kind, which are esteem'd one of the nicest Dainties at the Tables of our Gentry and Merchants. They are chiefly found about twenty Leagues from Point *Negril*, near the *Cayman Islands*, to which all the *Tortoises*, from the *Caribbees* to the Bay of *Mexico*, repair every Summer to lay and hatch their Eggs. It is said they float asleep in a calm Day on the

* See Vol. II. p. 204.

Surface of the Water, and the Seamen row to them gently, and either take them by striking them with Irons, or ensnaring their Legs with a Rope and Running-Net.—Dr. *Stubbs*, who communicated an Account of this Animal to the *Royal Society*, says its Blood is colder than any Water he ever felt in *Jamaica*, and yet its Heart beats as strongly, and its Arteries are as firm as any Creature he ever knew. If their Blood at any time be hotter than the Element they move in, they die. They have a Sort of Teeth, with which they bite much more of the submarine Grass than they swallow, so that the Surface of the Water where they feed is sometimes cover'd with what they loosen from the Bottom. If they are hurt on Shore, by throwing them on their Backs, or otherwise, they are observed to shed Tears; and the Head being cut off they die instantly. When the Tortoises come upon the above-mention'd Coast to lay their Eggs, they continue their Intimacy so long, that the Male is reduced to a Kind of Jelly within, and is at length carried home by the Female.

THE Rivers and Ponds of *Jamaica* are much infested by that terrible Creature we call an *Alligator*, of which we have given some Account when we spoke of the *Crocodile*, as several Writers believe the two Animals are of the same Species*. The Flesh of other Animals is what they hunt for greedily, but they seldom get Men to devour, because they turn slowly

and with Difficulty, though their Motion in a strait Line is swift and strong. They are from ten to twenty Feet in Length, and their Backs are scaly and impenetrable, so that it is very hard to wound them except in the Eye or Belly. Their Shape is much like that of a Lizard, having four Feet, with which they either swim or walk on the Ground, being an amphibious Animal. They lie on the Banks of Rivers, waiting for Beasts that come to drink, which they seize and devour; and they deceive them the more easily, as they lie like a Log of Wood, or something that is inanimate. However, their Scent is so strong, that Men and other Creatures can smell them at a Distance, and thereby avoid the Danger. They lay their Eggs in the Sand, by the Banks of Rivers; and as soon as the Young come out of the Egg, which is about the Size and Shape of a Turkey's, they immediately take to the Water. Those at full Growth have Teeth like a Mastiff Dog; and we read of two different Ways of killing them, which we think it is proper to mention. One Method is this; the Person who attacks the Alligator is arm'd with a long Truncheon, and assaults him sideways; for if he were to make his Attack in the Front, the Creature would be too nimble for his Adversary; but by beating them upon the Shoulders, and behind their fore Feet, they are easily lamed and master'd. We

• See Vol. III. p. 235.

are likewise told, that the Negroes frequently kill them by preparing a Piece of Iron-Wood eighteen Inches or two Feet long, sharp at both Ends. This they take by the Middle, and jump into the River where they see the Alligator, which advancing to them with open Jaws, they thrust their Hand into his Mouth, and the Animal biting fastens its upper and under Jaws on the Points of the Iron-Wood; and being thus secured they kill him without Difficulty or Danger. Sometimes (our Author adds) they are brought to *Spanish Town*, and, after their Teeth are taken out, baited like a Bull.

THE Mountains of *Jamaica* breed numberless Adders and other noxious Animals, as the Fens and Marshes do the *Guana* and *Galliwasps*; but these last are not venomous. Of all the Insects produced in that Island there is none so mischievous as the *Ciron* or *Chegoe*, which eats into the Flesh of the Negroes, sometimes making their Toes bare to the very Bone. The white People are sometimes troubled with them, and troublesome enough they are; for when they are got into any Part of the Body they breed in great Numbers, and shut themselves up in a Bag, which the Negroes take care to pick out with a Needle or the Point of a Penknife, and destroy entirely, so that none of the Breed may remain.

THERE are in *Jamaica* a Sort of Flies call'd *Fire-flies*, on account of their contracting and expanding their Light as they fly. In the Day-time

time they look green, but glow and shine in the Night, and do so even some Days they are dead. By a few of them, it is said, one may distinctly read the smallest Print, provided they are laid close to the Book, and moved from Line to Line.

WE now proceed to take a View of *Barbadoes*, one of the chief of the *Caribbees*, and the most considerable of all the *British* Island-Colonies next to *Jamaica*. The Climate here is very hot, especially for eight Months in the Year; but the Heat is not so excessive as in the same Latitude on the Continent, which may be said of the *American* Islands in general; and it is observable, that though People in *Barbadoes* sweat very much, they are not so weaken'd by it as we are by the Heat in *England* in *July* and *August*, nor are they so apt to be thirsty. The Length of the Day is very near the same all the Year round, the Sun always rising at Six and setting at Six, or within half an Hour before and after it; but the Twilights are so short, that it is presently dark after Sun-set.

EXCEPTING that of *Bridge-Town* in *Carlisle-Bay*, there is scarce a Harbour in the Island, nor a Stream that deserves the Name of a River; but they have Wells of good Water almost all over the Island, without digging very deep for it, and likewise large Ponds and Reservoirs for Rain-Water. For the most part it is a plain level Country, with some small Hills, and its
Woods

Woods have been cut down to make room for Plantations of Sugar-Canes, which now take up almost the whole Island, and render it the most valuable Colony, for its Size, that *Great-Britain* ever possess'd. As to the Cultivation of the Cane and the Manufacture of Sugar, we refer the Reader to what has been already said in treating of *Jamaica*.

THE Trees in *Barbadoes*, as well as in the neighbouring Islands, are perpetually bearing Fruit or Blossoms; so that at the same Time one may see the blooming Beauties of the Spring, and the mature Glories of the Summer. Here are all Sorts of Oranges and Lemons, sweet, sour, and *Seville* in abundance, which last are large, and their Juice delicious. The Fragrancy of the Juice is as remarkable as the Beauty and Size of the Fruit; and the Weight of the Citrons often bend the Branches of the Tree to the Ground. With the Rind or Peel of Citrons the Ladies of *Barbadoes* make the finest Cordials and Sweetmeats; and indeed they are generally allow'd to excel the *English* in the Art of Conserving, having the Advantage of the finest Sugar and Fruits in Nature, with abundance of choice Roots, &c. that are both wholesome and agreeable to the Palate.

THE Lime-trees in *Barbadoes* are as prickly as our Holly-bush, and they were formerly used by the Planters for Hedges. The Tree grows seven or eight Feet high, full of Leaves and Fruit, which so much resemble a Lemon, that they

they are hardly to be distinguish'd at a little Distance. Since Punch has been a fashionable Liquor in *England*, some Tuns of Lime-Juice have been annually imported to our Island. *China* Limes are also frequent there, also *China* or *Sweet Lemons*, of which the latter are of most Use and Value. The Tamarind and Palm-tree are not Natives of *Barbadoes*, but were brought thither seventy or eighty Years ago. Here are also fine Pine-Apples, which we have heretofore described; with Aloes, Mangroves, Calabashes, Cotton-trees, Bulley-trees, Mastich-trees, Cedars, Cacao trees, and other Vegetables already spoken of sufficiently.

THERE are some Plants however, that grow in *Barbadoes*, which deserve a little more particular Notice; as the Fig-tree, which has a Trunk about as big as an Elm, though the Fruit is less than a Cherry, insipid, and little regarded. The Trunk shoots out Beards or Fibres, which take Root in the Ground; and, if suffered to grow, would become a Grove; from whence we are apt to imagine it is the same as the *Banjan-Tree* mention'd in the *East-Indies*.

THE *Cassia Fistula*, which has been heretofore described, is also common in *Barbadoes*, and is a Tree of such quick Growth, that it has been known to rise eight Feet in a Year's time. This, according to Mr. *Smith*, is a strait-bodied Tree, thirty Feet high, with spreading Branches, from which hang the Pods, which are about
twelve

twelve Inches long, and of a dark brown Colour.—The *Plantain-tree* is also remarkable for its swift Growth, and three or four Roots shoot from one Root; but there is a wild Sort, which is of a scarlet Colour, and the Fruit good for nothing. The Tree also grows in this Island, that bears large yellow Plums, which being steep'd twenty-four Hours in Water, and then strain'd, make a good Drink.—*Guana-trees*, which yield a wholesome Fruit, and *Soap-Berries*, about the Bigness of a Sloe, grow likewise in great Plenty.

THE *Guava* is a Tree common enough in *Barbadoes* and the neighbouring Islands, as well as the Continent, somewhat resembling a Cherry-tree, and bearing a Fruit of the Size of a small Lemon, which has a soft but thick Rind, and is of a delicate Flavour. The Rind incloses a pulpy Substance, which is not unlike a Quince, and makes the best Jelly and Marmalade that can be imagined. What is remarkable of this Tree, it has been known to bear Fruit when not above six Inches out of the Ground, though it grows to the Height of eighteen or twenty Feet.

THE *Custard Apple*, which grows on a Tree of a fine clear red Colour, is eaten by the Servants and Slaves, being kept a Day after gathering, when they take out the Pulp, which is like a Custard, with a Spoon.—The *Pomegranate* has small Leaves of an Olive-Green, and grows in *Barbadoes*, but the Fruit is not so large

large as in the Southern Parts of *Europe*—The prickled *Apple-tree* bears a Fruit shaped like a Heart, which is of a pale green Colour, and tastes like a musty Lemon.

THE *Locust tree*, whose Timber is used in Wind-mills and other Buildings, grows likewise in *Barbadoes*, just in the Form of a *Tuscan Pillar*, being less and less all the way from the Bottom to the Top.—*Iron-Wood*, which we have frequently mention'd already, is so call'd from its Weight and Hardness, is of a dark-red Colour, and blossoms both in *March* and *September*. Here are also *Red Wood*, prickled *Yellow Wood*, and *Lignum Vitæ*

Ginger is common enough in *Barbadoes*, and *red Pepper* of two Sorts, one of them call'd *Bennet*, and both very hot and strong scented.—They have *Grapes*, but not so good as on the Continent. Their *Cucumbers* and *Melons* are very large and fine, and especially their *Water-Melons* are extremely refreshing, and reckon'd good for the Stone.—The *Sensible Plant*, the *Humble Plant*, and the *Dumb Cane*, are also frequent in this Island, with many other Vegetables brought hither originally from *England*.

BESIDES the *Damask* and *Provence* *Roses*, which they have all the Year round, they have divers Sorts of beautiful Flowers, particularly that call'd the *St. Jago Flower*, the Smell of which however is very disagreeable —The *Passion-tree*, whose Blossom is here call'd the *Vinegar*

gar Pear-flower, creeps along the Ground like Ivy; or else, with the *Water Lemon-flower*, is turn'd over Arbours like our Honey-suckles. —The Flower call'd in *England* the *Merveille de Peru* goes in *Barbadoes* by the Name of the *Four-o'Clock flower*, because it opens in the Evening. The Flower is larger than a Primrose, of the finest purple Colour; and the Seed is black, with an Eye of Purple. —There is a Sort of Cabbage in this Island call'd the *Seven Years Cabbage*, which is much sweeter than ours, and shoots out many Slips that produce others when transplanted. —There is likewise Plenty of excellent Pulse; but the *European* Apples, Pears, Cherries, Gooseberries, and our other Shrub-fruits, do not thrive well. Of their Potatoes they make a brisk Small-Beer call'd *Mobby*.

As to their Birds, the largest is a Buzzard, less and swifter than our grey Buzzard, and a great Destroyer of Rats. They have a large Sort of Turtle-Doves, but the lesser is the finest, being shaped like a Partridge, with grey, red, and brown Feathers. —The Humming-Bird, already described, is common in this Island; but their chief singing Bird is a Kind of Thrush, which hangs down its Head, and its Feathers are always ruffled. There is likewise another Sort call'd the *Quaking-Thrush*, somewhat like a Wren, with a long Bill, but it seldom or never sings —Another Bird, call'd a *Black-Bird*, has white Eyes, a Note almost like a Jay, and feeds

chiefly on Corn and Blossoms. These fly together in great Flocks; and there is another Sort in Colour like a Fieldfare, with a large Head, and therefore call'd a *Counsellor* or *Loggerhead*. It is extremely wanton in its Flight, and has such a strange Note as is not to be imitated either by Voice or Instrument. They have also a Sort of Fowl call'd *Oxen* and *Kine*, and *Men of War Birds*, which fly twenty or thirty Leagues from Land, and return (as is said) when they spy a Sail.

SOME Authors say there are Snakes in *Barbadoes* about a Yard long, which will climb the Walls of a Dairy, enter the Windows, skim the Milk, and so return back again, but never bite any body.—The most offensive Insect in the Island is the *Cock-roach*, which (as described by Mr. *Smith*) is a large, long, stinking Fly, of a Chocolate Hue, that lays a long Egg of a brown duskyish Colour, quite flat at each End, so that it looks like a Bit of a small Stick. This Egg is glutinous, and will stick to any thing, where it remains till the Heat of the Weather produces the Young; and the Singularity of it lies in its numerous Brood, one single Egg affording above twenty Flies. An Acquaintance of our Author's put one into a Glass Vial, and kept it there till it produced thirty young ones, which were of a whitish Colour. This Fly does not bite like a Gnat, but lights upon any Part of you in the Evening, at which Time
it

it is particularly troublesome.—There is also an Insect call'd *Merry-wings*, much like our Gnats; and that mischievous one call'd a *Chego*, as well as various Sorts of Ants, especially *Wood Ants*, which destroy the Timber in Houses. These Ants are white, and, when squeez'd, there issues a soft Matter of the same Colour.—The *Mastich-fly*, so call'd from its living upon the Mastich-tree, is said to be so fragrant as to perfume the Air as it flies along. It is supposed to destroy the Tree by a Sort of Rasp in its Bill, with which it makes thousands of Holes, and leaves the Wood it consumes under the Tree like Saw-dust.

THE neighbouring Sea abounds with most Sorts of Fish, besides the *Green Turtle*, which is extremely delicious.—The *Parrot-fish*, when come to Maturity, will weigh twenty Pounds, is well tasted, and has Scales like a Carp; he is of a green Colour, has sharp strong Jaws, but no Teeth, and feeds chiefly on other Fish.—The *Land Crabs*, though not peculiar to *Barbadoes*, but found in most of the neighbouring Islands, may as well be described here, since they are common in that Country. Mr. *Smith*, who speaks of them in *Nevis*, says they live high up in the Woods on the Mountains, and make small Burrows in the Ground like Rabbits; that their Flesh is delicious Eating, and their Shells of a blood-red Colour when boil'd, but in other Respects no ways curious. They annually travel down to the Sea, in order to

wash and shed their Shells*, at which Season they are easily caught, by the Help of Torches in the Night, which is the Time of their travelling. Their Bodies (says our Author) are much less than those of our *European* Sea-Crabs; and Nature has supplied them with Claws, which, though long and slender, enable them to lift up their Bodies well, and to travel apace.—Other Writers tell us, that these Crabs live in the Holes of Houses or hollow Trees, eat Herbs in the Gardens, and are often met on the Stairs, and in the Parlours.

AFTER *Barbadoes* we think the Island of *Nevis* deserves our Notice, in our Account of which we shall chiefly follow the Reverend Mr. *Smith*, whom we have so often quoted already. This Island, our Author informs us, is call'd the Mother of the *English* *Leeward* *Caribbee* *Islands*, because, as *England* is govern'd by King, Lords, and Commons, so they are ruled by Governor, Council, and Assembly, who can make any Law to last for twelve Months; but if they would have it continue in Force longer, it must be confirmed by the King's Privy Council: In all other Cases they are ruled by the common Statute Law of *England*. *St. Bartholomew* and *Anguilla* (adds our Author) have their respective Governors appointed them by the

* Compare this Account with what is before said of the *Soldier-Crab* in this Volume.

Governor-General of *Nevis*; and Pirates are tried at *Nevis* only, as being the Mother Island.

THE Soil of *Nevis*, especially in the Valleys, is fruitful, but the rising Ground is stony, and the Plantations therefore the worse the higher they are towards the Summit of the Mountain. This Mountain, says Mr. *Smith*, has been measured with a Quadrant from the Bay at *Charles-Town*, and it is said to be exactly a Mile and a half perpendicular, though our Author thinks it is not so high: He allows it however to be higher than the Mountain call'd *Coal* in *Norway*, or that call'd *Skiddaw* in *Cumberland*.—As to the Product of *Nevis*, it is much the same as in the other *Caribbee* Islands, Sugar being its staple Commodity, and exchanged for all others instead of Money. Their Sugar was formerly for the most part *Moscovado*; but they have since endeavour'd to clay it, and had Refiners from *Barbadoes*; however, they have not had much Success till within a few Years past. Tobacco, Cotton, and Ginger, were once much cultivated in *Nevis*, but of late little or none; the Sugar-Plantations now so much engrossing the Attention of the Inhabitants, that fifty or sixty Ships have been laden with that Commodity in a Year for *Europe*. The Island was formerly overspread with Purslain, which, says Mr. *Smith*, was reckon'd one of the worst Weeds belonging to us at our *Bath-Plain* Plantation. The Aloes there are entirely neglected.

ON the South Side of St. *John's* Parish, of which Mr. *Smith* was Rector, there is a considerable Spot of sulphurous Ground, at the upper End of a deep Rupture in the Earth commonly call'd *Sulphur Gut*, which is so exceeding hot as to be presently felt through the Shoe-Soals; and some Eggs being buried in it about an Inch deep, for the Space of three or four Minutes, they were as hard in that Time as boiling or roasting could have made them.

AT the Foot of a Declivity adjoining to the South Side of *Charles-Town*, there is a little hot River call'd the *Bath*, supposed to flow from the above-mention'd sulphurous Ground, which is not above three Quarters of a Mile higher up in the Country. This Rivulet runs at least half a Mile before it loses itself in the Sands of the Sea; and towards the Sea-side there is a particular Part of it, where a Man may set one Foot upon a Spring that is excessive cold, and the other upon another Spring that is surprizingly hot. All distemper'd People, both Whites and Blacks, find great Benefit from this hot River; and our Author says he knew a Negro-Boy, who was sent from *Barbadoes* to *Nevis* for that Purpose, cured of a Leprosy by drinking and bathing in it three or four times a Day, after having been twice salivated in vain. Mr. *Smith* himself bathed in it once a Fortnight, and owns that it contributed not a little to his Health and Vivacity; and for the last nine Months of his Stay in *Nevis*, it was his Custom
to

to walk to the River every Morning at Sun-rising, and drink a Pint of its Water, which he found operated both by Stool and Urine.

AT another Place, a little to the Southward of *Charles-Town*, there is a sharp Point of Land that jets out a considerable Way into the Sea; on the rocky Extremity whereof Mr. *Smith* stood, whilst a tall Negro slipped down from it into the Water, and taking up some Sand from the Bottom he gave it into our Author's Hand, who found it to be very warm, the Man at the same time affirming that the Spring at the Bottom was so very hot, that he could scarce bear to set his Foot upon it.—The Water of *Black-Rock Pond*, about a Quarter of a Mile from *Charles-Town*, is milk-warm, occasion'd undoubtedly by a Mixture of such hot and cold Springs, and yet it yields several Sorts of excellent Fish, and perhaps the best Eels in the World, for they have not the least rank Taste, and are therefore very much admired. The *Silver-Fish*, found in this Pond, is about eight Inches long, has a bright Body, and tastes much like an *English* Whiting: And here is also the *Slim-gut*, in Length from ten to about twenty Inches, which eats like our Gudgeons, and is not unlike them in Colour.

OUR Author farther informs us, that they have a good Spring and a short Stream at *Nevis*, which afford them *Mud-fishes*, generally reckon'd the richest Fish they have; but for his Part, he always thought the *Cavally*, a Sea-fish,

fish, the finest Eating of any. This last is a very firm Fish, weighs four or five Pounds, and tastes not unlike a Mackarel.—They have likewise a peculiar Sort of Cockles, which are delicious at the Full of the Moon, and increase and decrease in Bulk as well as Goodness, just as that Luminary seems to increase or decrease to our Sight. The Shells are of a triangular Form, but not equilaterally so, two Sides of them being each as long again as the short Side; and all the three Angles are rounded off or blunted. They are of a bright shining Colour, like well-polish'd white Marble, and are generally streak'd very regularly with beautiful red or blue Veins. The Manner of taking them is this: A Negro goes into one of the sandy Bays up to his Knees, where stooping down he takes up a Basket of Sand from the Bottom, which he dips into the Water till the Sand is wash'd away, and the Cockles are left behind.—It is remarkable, that this Sort of Cockle is not to be found, as far as Mr. *Smith* could learn, at any other of the *Leeward Caribbee* Islands; nay, they have been carried to *St. Christopher's*, and would not propagate there, though the nearest End of that Island is within four or five Miles of *Nevis*.

A Method of Fishing, or rather Fish-hunting, practised in *Nevis*, and described by our Author, seems worthy our Observation. When seven or eight Gentlemen have an Inclination for this Diversion, they send their Slaves to the
Woods

Woods to get some of the Bark that grows upon the Roots a Tree call'd *Dog-wood*, which is next Morning pounded very small, put into old Sacks, and carried to the rocky Part of the Coast, where it is steeped till it be thoroughly soaked with the salt Water, and then well squeezed by the Negroes to get out the Juice. This Juice presently stains the Sea with a reddish Hue, and, being of a poisonous Nature, will in an Hour's time make the Fishes, such as Old Wives, Rock fish, Welchmen, &c. so intoxicated as to swim on the Surface of the Water quite heedless of Danger; when the Negroes pursue them, and either take them by swimming or diving after them, their Masters standing on the Rocks to see the Pastime.— This Poison, Mr. *Smith* observes, kills Millions of the Small Fry; and he imagines it must likewise destroy the Shell-fish that lie at the Bottom, and are less qualified to escape its Effects by moving into purer Water. Besides, as they naturally die every Year in considerable Numbers, it is no Wonder that in the Hurricane Months their Shells are cast up in abundance on the rocky Shore of the Island. That they are so cast up is certain, but Mr. *Smith* acquaints us, that their Colours are not bright or beautiful, till they have lain for some time upon the Shore to be dried and polish'd by the Heat of the Sun, which scorches off such Moss or Filth as at first sticks about them, and hinders the Eye from perceiving those inimitable Strokes
of

of Nature's Pencil with which they are adorn'd.

AFTER having mention'd several beautiful Shells, of which he sent Specimens to *England*, Mr. *Smith* gives us another remarkable Particular relating to the Productions of the Sea about *Nevis*. The Lobsters there, says he, exactly resemble the *Eng'ish* ones in Size, Colour, and Shape, except that their two large Claws are not so big in Proportion to their Bodies; but he had like to have lost his Life by one Circumstance attending them, which is this: Such of them, it seems, as are found on the Western Side of the Island are reckon'd fine Eating, but those taken on the Eastern are poisonous, which is attributed to some unwholesome Sort of Food they meet with there, by some imagined to be Veins of Copperas. This Poison, as our Author experienced, works by dreadful Stools and Vomits.

WE have not yet taken notice of the *Porpus*, a Fish common enough in the *European* Seas, but very different, according to Mr. *Smith*, from those found in the *American*. In his Voyage towards the *Caribbee* Islands, he says, they were more than once pursued by Millions of Porpusses, which swam along by the Ship like an Arrow out of a Bow, though they were then under a brisk Gale of Wind. They were at least two Hours in passing by after that Manner, the Sea being cover'd with them as far as the Eye could discern. They jump'd up every Moment,



Moment, shewing almost their whole Bodies. Most of them were five or six Feet long, having a Head shaped pretty much like a Hog's, and in Colour were not unlike our *English* Minnows. —A Day or two after our Author observ'd some of them with Noses exactly form'd like Quart Glass-Bottles, and full as large; on which Account they are not improperly call'd *Bottle-Noses*: But these are much bigger than the others, and differ strangely from those found upon the *British* Coasts.

WHEN speaking of the Animals of *China*, we gave a Description of the *Golden Fish**; but as Mr. *Smith*'s Account of that Fish differs from ours in several Particulars, we think it proper to transcribe it here, that the Reader may compare them together. He says that some of these Fishes are kept alive by Mr. *Margas* of *London*, in a *China* Bason that has a hollow Piece of Rock-work in the Middle, with several Holes in it, through which they delight to pass and repass. This Gentleman had a dozen brought him by an *East-India* Captain, which were all red when in *China*, except two, but when they came to *England* changed into all manner of Colours, some having Spots of Red, some Red and Gold, some White and Purple, some Silver and Red, some Yellow and Red, and some gilded all over. The Case is the same in *China*, where they are of various Co-

* See Vol. III. p. 122.

lours, but all of them extremely beautiful. They are (says our Author) from two to fourteen Inches long, and no one could ever distinguish the Male from the Female. Their Tails are either quite flat, or else triangular. Mr. *Margas* keeps them in *Thames* Water; and if it be muddy when the Basin is fill'd, they will purify it, and render it as clear as Pump Water, in a Quarter of an Hour; so that it is probable they live upon the Mud and such *Animalcula* as are found in all Waters, even the purest. Sometimes he feeds them with Bread, but he thinks they are better without it; several having died when he fed them, but none when he did not.

To return from this Digression to the Animals of *Nevis*: The Sheep of that Island have neither Horns nor Wool, being hairy and smooth-skinn'd, and generally full of small red or black Spots, resembling those of a fine Spaniel. They breed twice a Year, if not oftener; bring usually two, three, or four Lambs at a time; and, what is more extraordinary, suckle them all. The Rams are of a pale red Colour, with a thick Row of long strait Hair hanging down under their Throat, from their lower Jaw to their fore Legs. They have likewise Plenty of Goats, which, as well as the Sheep, are very prolific.—Their Porkers, being fed with *Indian* Corn, *Spanish* Potatoes, and Sugar-Cane Juice during the Crop time, are very white and excellent Food; their Fowls, especially their Turkeys, of which they have great

great Plenty, are the same; their Veal is small fat, and white; but their Beef, (adds our Author) the principal Support of an *Englishman's* Life, is lean and tough.

AT *Nevis*, it seems, they have excellent Game-Cocks, and fierce Bull-Dogs, notwithstanding the vulgar Notion that they degenerate out of *England*. They have also Cur-Dogs; but no Hounds nor Spaniels, there being no Game for them in that Island. Some of the Negroes, Mr. *Smith* observes, eat Dog's-Flesh; in which Case the Dogs, both of the Bull and Cur Breed, are apt to fly outrageously at them; and the People there imagine they know them to be Dog Eaters, by some particular Scent.—What he adds is very remarkable, *viz.* that he never once heard of a Dog's running mad at *Nevis*, (notwithstanding the Heat of the Climate) as they too frequently do here in *England*.

THE most usual Birds at *Nevis* are a small Kind of Screech-Owls, Noddies, Spoon-bills, Pelicans, Pigeons, wild and tame, and Ground-Doves, which last are about the Bigness of a Lark, of a Chocolate-Colour, spotted with a dark Blue. Their Heads are like that of a Robin Red-breast, and their Eyes and Legs are of a fine Red.—They have likewise a few Birds call'd *Mountain-Thrushes*, which are very fat, and resemble the *English* ones; and at one Season of the Year they are visited by a few Swallows.

As to Animals of the Lizard Kind, Mr. *Smith* particularly takes notice of the *Guana*, though he never saw above three or four of them during his Stay at *Nevis*; which Scarcity he imagines may be in some measure occasion'd by their Flesh making excellent Broth, and tasting deliciously, as he was credibly inform'd. From the Nose to the End of the Tail they are about a Yard long, of the Shape of a Lizard, but walk far more uprightly upon their Legs, and their Eye (if possible) exceeds the Lizard's in Beauty. They are all over cover'd with scaly Spots, each as broad as a Silver-Penny, some of a deep Black, and others of the most perfect Yellow. They are very harmless Creatures, even to a Proverb.

LIZARDS are very numerous in *Nevis*, from three Inches to a Foot in Length; but they are too well known to require a particular Description: There is a strange Circumstance however, mention'd by Mr. *Smith*, relating to a musical Noise supposed to be made by the united Voices of Lizards, Guana's, Snakes, Grasshoppers, &c. which we believe the Reader will not be displeased to have an Account of. As soon as Day-light is well shut in, says he, the said soft and agreeable Noise begins, to describe which fully and truly he acknowledges he wants Words to express his Ideas. To give as just a Notion of it as the Nature of the Thing will admit, imagine that in a mild and still Summer's Night, instead of the Croaking of Frogs and Toads,

you

you hear Millions of the softest melodious Notes strike up almost at once, into as high a Key as Musick can possibly rise to; and though they seem to form no particular Tune, yet are sweet and soothing beyond Compare. Our Author thought the Animals sung in Concert; for when they were up at the highest Key, they would all of a sudden stop together, and then presently swell their Notes, and resume their wonted Harmony as loud as before. At other times they would raise and fall their Notes in the most enchanting Manner, and thus would their Musick last till Day-break. When Mr. *Smith* first heard them, he was so ravished that he stood motionless for some Minutes; and afterwards left his Company in the House, and went out six or seven times on purpose to listen to their bewitching Musick; nay, he could not fall asleep for it till some Hours after his getting into Bed.—In short, during his Stay at *Nevis*, his ravish'd Soul join'd most chearfully with these little Creatures every Night in ardent and repeated Allelujas to the divine Source of Harmony and Love.

AMONG the Insects found in *Nevis*, and other neighbouring Islands, some Travellers mention a curious one call'd a *Flying Tyger*, because its Body, like that of a Tyger, is mark'd with Spots of various Colours. It is about the Size of a large Beetle, has a sharp-pointed Head, and two large Eyes as green and sparkling as an Emerald. Its Mouth is arm'd with two

very sharp Hooks, with which it holds its Prey ; and its whole Body is cover'd with a brownish crusty Tegument. Under its two largest Wings, which are also of a solid Matter, are four lesser Wings as thin as the finest Silk. It has six Legs, each of which has three Joints, and is beset with little Prickles. In the Day-time it is continually pursuing other Insects, which are its Prey ; and in the Night it lodges on the Trees, where it makes a Noise almost like a Grasshopper.

THERE are *Horn-flies* of several Sorts, particularly one about three Inches long, which has two Snouts like an Elephant's, the one turning upwards, the other downwards. It has a blue Head, with two green Eyes, encompass'd by a small white Circle. Out of its Back rises a Horn shaped like a Woodcock's Bill, smooth on the upper Side, and cover'd with Down on the lower ; which Horn reaches to its Head, where it has another resembling that of a Beetle, black as Ebony, and as clear as Glass. Its Wings are of a Violet-Colour, intermix'd with Carnation ; and where the upper ones are expanded two lesser ones may be seen under them, as thin as those of the Flying Tyger, and red as Scarlet.

THERE is another pretty little Insect with four Legs, call'd a *Fly-catcher*, whose Colours are various and beautiful. It comes boldly into Rooms, and will even light upon the Table when People are eating, and catch the Flies that

that crawl upon their Cloaths. Its Method is to lie waiting for the Flies, and when it sees an Advantage it leaps directly on its Prey, which it seldom misses. The small Eggs these Insects lay they cover slightly with Earth, and leave them to be hatch'd by the Sun.

It is now Time to mention some of the vegetable Productions of *Nevis*, which we have not occasionally described already. There are Water-Melons, Mr. *Smith* tells us, of five or six different Sorts, some of them full as big as his Head. They melt in the Mouth like a Peach, and are in that Gentleman's Opinion far the finest Fruit he ever tasted. The Inhabitants eat great Numbers of them, which, together with their other Fruits, contribute to a plentiful Discharge of Urine. They have also Musk-Melons, which are the same with those in *Europe*; likewise Shaddocks, Penguins, Belle-Apples, Sea-Side Grapes, and Cashew-Cherries, which last are call'd Apples in *Jamaica*.

THE *Shaddock* is a Fruit shaped like an Orange, and not unlike it in Taste, though it has not so rich a Flavour. It is of a beautiful Lemon-Colour, and as big as one's two Fists. — *Penguins* are of two Sorts, one of which is round, about the Size of an Apple, has a thick Husk that covers the Fruit, which is of a milk-white Colour, and full of very small coal-black Seeds. They are an agreeable Fruit, tasting not unlike a Strawberry, and are sometimes call'd by that Name. The other Sort is

smaller, of a longer Shape, is very tart, and is used for gargling the Mouth in Fevers.—*Belle-Apples* are about as big as a small Golden-Pippin, of a deep yellow Colour, taste like a Gooseberry, and have little Seeds in them like those of that Fruit.—*Sea side Grapes* grow in large Bunches on Trees as big as Apple-trees, and near the Sea-Shore, as their Name implies. They are of a red Colour, and of a very sweet Taste.—The *Cashew Cherries* grow on a Tree resembling the *English Dwarf Apple-tree*, but the Leaves are of a much lighter yellowish Green. The Fruit is generally of a deep Yellow, but sometimes of a palish Red; its Shape is conical, with the lesser End towards the Stalk; and it is about the Size of a middling Pear. At the Top of the Cherry, in a little Cavity, grows the Stone, by some call'd a Nut, quite bare, and exactly shaped like a Sheep's Kidney. It is about an Inch long, containing in it a Kernel of a fine Taste, but the Fruit itself has a harsh and uncommon Flavour. Mr. *Smith* tells us of a very singular Use made of this Stone by the young Ladies in the *West-Indies*, who, when they fancy themselves too much tann'd by the scorching Rays of the Sun, rub their Faces all over with it, after having scraped off its thin outside Skin. This causes their Faces to swell, grow black, and the Skin being thus poison'd comes off entirely in Flakes in five or six Days; so that they cannot appear in Publick for a Fortnight at least, but then they have

have got a new Skin that looks as fair as that of a young Child. In the Pores of this Stone or Nut, it seems, there is lodged a sharp aromatic Oil, of a caustic Quality, which, if tasted of, occasions an uneasy Sensation for several Hours; and it is this Oil that takes off the Skin of the Face. Now, though this is frequently practised, our Author does not remember above one Lady who own'd that she herself had tried the Experiment. The whole Operation she acknowledged was painful; but alas! (says Mr. *Smith*) What will not Pride attempt?

THE *Calabash-tree* is likewise the Produce of *Nevis*, *St. Christopher's*, and several others of the *Leeward Islands*. It spreads like a large Apple-tree, and bears a Fruit almost as big as a Man's Head, quite round, but of no Use but for Punch-Bowls, &c. after the Inside (which is not fit to eat) is scoop'd out; and then the Shell is almost as thin and light as the thickest Sort of brown Paper. Mr. *Smith* was inform'd, that Spoons, Bowls, and other Utensils for the Slaves to eat out of, are made of Calabashes at *Barbadoes*.

THERE is a Tree in *Nevis* and the adjacent Islands call'd *Diddle doo*, of the Size and Shape of a Codlin-tree, but with narrow thin Leaves. It bears a beautiful Blossom, of the finest yellow and scarlet Colours, somewhat resembling the Flowers of *Nasturtium*. These are esteem'd

esteem'd a sovereign Remedy in the Green Sickness, which Distemper however is very rare in so warm a Climate, and where the young Ladies so frequently use the Exercise of Dancing and Riding on horseback, which all together keep the Blood and other Juices of the Body in their regular Courses.

IN their Pastures they have a Bush growing about two Yards high, call'd a *Sage-Bush*, the Leaves whereof are not to be distinguish'd from those of the broad green Sage, either by Sight or Smell. The Tea made of it is of a fine yellow Colour, but so extremely bitter, that the best refined Sugar cannot render it palatable.

THEY have *Jessamine-Bushes* at *Nevis*, (not nail'd to the Walls as in *England*) which bear Flowers full as large as Primroses, of a very fragrant Smell. These Flowers are as white as Snow, and so thick set together, that the whole Bush, at a little Distance, looks as if it was cover'd with a white Holland Sheet.

WE ought not to omit a very singular Sort of Vegetable which Mr. *Smith* describes, tho' he cannot recollect its Name. It has neither Roots, Branches, Leaves, nor Flowers, but is round, and about as thick as a common Whipcord, and runs along the Tops of Bushes all manner of Ways, till it exceeds a hundred Yards in Length. It is of a most beautiful yellow Colour, and entirely different from the Bush which breeds and nourishes it; so that our Author

thor makes it a Query, whether it may not be of the Mistletoe-Kind, though he never saw it growing on bulky Trees.

ANOTHER Singularity Mr. *Smith* takes notice of is, that in the Mountain-Plantations at *Nevis*, where they have Asparagus produced from *London* Seed, he has known it fit to cut in three Months from the Time of its being sown; for there, instead of transplanting the Roots, they let it run up to Wood, in order to shade the Bed from the scorching Rays of the Sun, and the young ones that grow up under that Wood they cut for boiling: But by this means a Bed will not hold good much above two Years, and the Asparagus is never large.

WE shall close our Account of the Vegetables of *Nevis* with a Plant call'd *Cassada*, which is remarkable for being of a poisonous Quality, and yet affording a good Sort of Bread to the Inhabitants of many Parts of the *West-Indies**. *Cassada* (according to Mr. *Smith*) is a Shrub four Feet high or upwards, the Stem of it being strait, tough, brownish, and very knotty, just

* Dr. *Derham* observes, that many Plants, Animals, and Minerals, which in one Form are destructive to Mankind, in another are 'useful and healing; and as one Instance he mentions the *Cassada* Plant, which unprepared poisoneth, but pre-

pared is the very Bread of the *West Indies*. Sir *Hans Sloane* says it is used to victual Ships, and is of the most general Use of any Provision all over the *West-Indies*, especially in the hotter Parts.

like

like a Crab-tree Stick; and at the Top it is beset all round with long narrow Leaves of a deep green Colour. In order to make Bread of this Plant, the Root of it is carefully scraped till the white Part appears, and then it is rubb'd hard against a Tin-Grater about two Feet long, shap'd like a Nutmeg-Grater, and nail'd fast to a Piece of Wood; and being very juicy, it is soon reduced to a soft Matter resembling Children's Pap. This pappy Substance is then put into a Hair-Bag, and press'd hard between two Stones, till there runs from it a milk-white Liquor of a disagreeable Smell, and which is rank Poison; for if a Turkey, Hen, or other Fowl, happen to get to the Press and taste this Juice, it instantly dies. After this the Cassada is laid in the open Air, that the Heat of the Sun may exhale what poisonous Particles the Press could not squeeze out; and being thus dried it is sifted through a Sieve, made into thin Cakes, and baked upon a broad Iron kept purely for that Purpose. Our Author was an Admirer of this Bread, and assures us it made excellent Puddings.

THE Productions of *St. Christopher's*, *Antegoa*, *Montserrat*, and the other *Leeward Islands*, being much the same as those of *Nevis*, we shall have the less to say concerning them, though we must not wholly pass over them in Silence. *St. Christopher's* is the largest of all these Islands, and is represented by some Writers as one of
the

the most delightful Spots in the World, its Mountains, though in some Parts there are dreadful Rocks and Precipices, rising gradually one above another, and being adorn'd with Woods ever verdant, (except towards the Top) and intermix'd with Plantations, Houses, and Gardens. Mr. *Smith*, whom we have so often quoted, paid a Visit to a Friend at *St. Christopher's*, and took a Journey to the Top of the great Mountain there, an Account whereof is the Subject of one of his Letters, of which we have already made some Use, and from whence we shall now extract a few more Particulars.

FROM *Basse Terre*, the chief Town of the Island, our Author set out with his Friend for *Chianne*, and after riding through many Plantations of Sugar, and some of Cotton, they came to thick Woods, wherein they were agreeably entertain'd with the soft Notes of vast Numbers of Turtle-Doves, which, with the Murmurs of the Sea beating gently against the Rocks at half a Mile's Distance, were enough to lull any one to sleep who was so inclined. To avoid the Heat of the Sun they travell'd along a Gill (or deep Valley) which runs upwards from the Sea-side, growing steeper the farther from the Coast, and plentifully stock'd with wild Palm-trees, Pimento, Cassia Fistula, and other fragrant Trees. Through the whole Length of this Gill, which is about two Hours Journey, runs a little but exceedingly transparent River of very sweet Water; and not far
from

from the Side of this Rivulet there is a pleasant Garden, regularly planted with Rows of Citrons, Lemons, Oranges, Limes, Pomegranates, &c. besides Pine-Apples, Asparagus, Lettuces, and all Sorts of *European* Roots and Herbs that will grow in so warm a Latitude. To this Garden the Gentlemen and Ladies often come from *Basse Terre*, to divert themselves with Singing, Dancing, Cards, and such-like Amusements.

IN the Evening our Author arrived at his Friend's House at *Cbianne*, which is about eight Miles from *Basse Terre*, the Road thither having the Ocean on the Right, and the vast *Conorrbee* Hills on the Left, whose lofty Tops then touched the Clouds, and seemed to rise to that Height almost perpendicularly. The next Morning they diverted themselves with catching Crayfish in *Cbianne* River, or rather Brook, for it is narrow and shallow, but a very clear Stream, which they poison'd with green Tobacco pound-ed and mix'd with unslaked Lime. This Poison is so strong, that the Fish crept out of the Water to shun it; at which Mr. *Smith* was not a little surprized, but his Friend assured him it was a common Thing.

THE thick Woods in this Island swarm with Monkeys, who venture out in the Night to steal Potatoes and other Provisions. Through these Woods our Traveller, in Company with nine others, Whites and Negroes, began to ascend the Mountain, the Ascent growing steeper and

and steeper, the higher they advanced; and in the like Proportion the large Trees began to dwindle and grow shorter. Before they had pass'd by all the Trees, they enter'd among the Clouds, which felt raw and cold, not unlike a Fog in a Winter's Morning. From these Woods to the Top, which is almost half a Mile, there are no Trees at all, and very rarely a Bush, the Ground producing scarce any thing but a Sort of wild Pine-Apple-Plants, which bear no Fruit. Being at last arrived at the Top with great Fatigue, the Clouds were at least half a Mile beneath them, but the Wind dispersing them, a lovely View was opened of the Woods and Plantations below, besides an unbounded Prospect of the *Atlantic* Ocean. The Top of this Mountain is a small Plain, not three hundred Yards wide, ending at the Verge of a vast deep Cavity, exactly round, and about a Mile in Circumference. Our Author judges its perpendicular Depth to be about two hundred and twenty Yards, and owns he look'd down into it with Horror, observing large and continual Clouds of Steam arise from the Veins of Sulphur, &c. with which the Bottom of it every where abounds. The Rim of this Cavity, except where it joins to and makes Part of the Plain, is not above twenty, and in some Places scarce ten Yards broad; and the Inside of it, for at least half way downwards, appears to be solid Rock, over-run with very short blackish Moss. Upon maturely weighing the

whole State of this Mountain, says Mr. *Smith*, we unanimously agreed that it was on fire underneath us, and that the Cavity was formerly (perhaps Ages ago) occasion'd by some furious and dreadful Eruption, when it might be a Volcano for a while, like *Vesuvius* or *Ætna**.

UPON the Rim of the Cavity, to the South-East, there is a large and steep rocky Mount, call'd *Mount Misery*, from a rash Fool, who attempting to climb the Precipice fell backwards and was kill'd. It is the highest Point of Land on *St. Christopher's*, its Height being reckon'd a Mile and a half perpendicular from the Sea; but Mr. *Smith* thinks it not so high by a Quarter of a Mile. This vast Mountain is in the Middle of a long Chain of lesser and lower ones, that run cross the Island; but, lofty as it is, our Author thinks the *Nevis* Mountain considerably higher.

THE whole Breadth of one Part of the above-mention'd Rim is taken up by a large single Rock, in the Form of a triangular Pyramid, equilateral, and almost as smooth as if it had been cut by the Chizzel of a skilful Workmen. From Angle to Angle (at the Base) it measures seven or eight Yards, is somewhat blunted or rather broken off at the Top, and a third Part

* Our Author's Conjecture is highly probably, since there is just such a Mouth or Cavity on the Top of *Vesuvius*, from whence the fiery

Eruptions proceed, as this he describes on the Top of the Mountain at *St. Christopher's*.—See Vol. I. p. 229.

downwards from thence it seems to be crack'd quite through sideways. The Colour of the Rock resembles the red Part of Oriental Granite, and like that too is so extremely hard. that a strong Arm can scarce make a visible Impression on it with the Steel Point of a sharp Cutlass. This triangular Pyramid on one Side of the Cavity, and *Mount Misery* on the other, each taking up the Breadth of the Rim, prevent a Person's walking more than half way round the Circle.

NEAR this Pyramid, by the Help of Bushes and Roots, our Author and his Company ventured to slide down forty or fifty Yards into the Cavity, till they came to some wild Banana's, which were ready to quench their Thirst with most clear and excellent Water that runs out of them upon sticking in a Penknife just where the Leaves join to the Top of the Body of the Tree, and so form a small Hollow, as if on purpose to receive the Blessings of Heaven, the Rain and the Dew, and reserve them for the thirsty Traveller*. It is observable of these Trees, that they are Annuals, dying quite to the Ground every Autumn, and shooting up again from the Roots in the Spring till they are thicker than a Man's Thigh; but the Wood is so very soft and porous, that one may easily

* The *Wild Pine* or *Aloss* of which see an Account is remarkable for retaining in p. 285 of this Volume. Water in the same Manner,

cut it through at a single Stroke with a good sharp Hatchet.

KEEPING on in a very steep Descent, through this Wood of Banana's, Cabbage-trees, &c. they arriv'd at the Bottom of the Cavity, where having cross'd a little Plain they came to an uneven Spot of Ground consisting of thirty Acres or upwards. Here they found a very large Rock, jutting out of the Side of the Hill; and at the Bottom of it were three or four round Holes in the Earth, as wide as a Hat-Crown, from whence issued hot Steams, like Smoke out of Chimneys, which tinged the Edges of the Holes with seemingly very fair Brimstone. The little Plain above-mention'd is so sulphureous that it bears nothing but long deadish Grass or rather Weeds, with a few short rottenish Bushes.

At length they came to some boiling Springs, commonly call'd the *Devil's Coppers*, each of them about a Yard in Diameter. The Water is of a muddy Colour, and rises to within a Foot of the Surface of the Ground, boiling fiercer, Mr. *Smith* says, than ever he saw a Sugar-Copper, and sending up strong Clouds of Steam into the Air. No Kind of Grass will grow within twelve Yards of them, the Soil being wholly Sulphur, and so excessive hot, that Mr. *Smith* and others in Company immediately perceiv'd it warm through thick Shoes which they had bought on purpose for this Expedition. A Negro, who was with them, was strangely
frighted

frighted at the Sight of these *Coppers*, as they are call'd, and could not be dissuaded from believing that *Jumbee* (*i. e.* the Devil) had his Residence underneath them.

ON the South Side of the Plain before-mention'd there is a Pond about forty Yards over, not supplied by Springs, but by Rains, which fall plentifully and very heavily in that warm Latitude. The Bottom of this Pond consists entirely of Clay, of which our Author cut up a Piece, and to his great Surprise found it as beautifully veined as the finest hard *Castile* Soap, and as fair as well polish'd blue-veined Marble.—Near this Pond grew a Bed of Rushes, on which the Company sat down and dined, and after resting themselves about two Hours return'd back to *Cbianne* the same Way they came, not a little fatigued with their Journey.

THE Vegetables of *St. Christopher's* are much the same as those of *Nevis* already described, and so are the Animals; but there is a Bird call'd a *Booby*, which gives Name to a little Island between the two last mention'd, that seems to deserve some Notice. It is a large Bird, of a dunnish Colour; and if one of them alights (as they now and then do) upon a Ship's Yard-Arm, it will stand there till a Sailor can climb up and catch it with his Hands, all the while pecking and screaming out, but never offering to fly away; from whence it has justly obtain'd the Name of *Booby*.—And here it may not be improper to mention another Bird, somewhat

bigger than a Pigeon, great Numbers of which are found in a little barren Island call'd *Prickle Pear*, to which the Women of *Anguilla*, an inconsiderable Island about a Day's Sail from *Nevis*, resort annually to strip them of their Feathers; and the poor Creatures, it seems, are so silly as to suffer these Women to knock them down with Sticks as they fly about. It is somewhat strange however, as our Author observes, that repeated Experience does not teach them Wit enough to keep farther off from such dangerous Enemies.

THE Produce of *Antegoa* or *Antigua* is much the same with that of the other *Caribbee* Islands, but Sugar is its principal Commodity, of which it is reckon'd to yield one Year with another sixteen thousand Hogheads. The Soil is sandy, and much of it overgrown with Wood; and though, as Mr. *Smith* tells us, there is not one single Spring of Water in the Island, but its sole Dependence is on what falls from the Skies, for which it is sometimes distressed, yet it is a thriving and very considerable Plantation. When the Gentleman last mention'd was at *Antegoa*, it was a Time of great Drought, and the Face of the Country look'd dismally enough; their Ponds were then very dry, and their Cisterns almost empty, so that they were obliged to fetch their fresh Water from *Guardaloupe* and *Montserrat*, which was afterwards sold for eighteen Pence a Pail-full.—The Capital of the Island, call'd *St. John's*, is a very regular Town,
and

and has the most commodious Harbour of any in the *English Leeward Islands*.

AT *Antegoa* they have fine Prawns, a Fish not to be met with at *Nevis*; and they have a small Land-Crab, whose Shell is not broader than a Crown-Piece, which they eat as a Dainty; but these are neglected at *Nevis*, because there they have Plenty of a larger Sort.—Mr. *Smith* farther informs us, that there are found in *Antegoa* some large white and roundish Stones, whose Inside is hollow, and the Outside overspread, as it were, with one continued Heap of fair Crystal, which sometimes in a tolerable Degree resembles wrought Diamonds set close together. That Gentleman had a Ring ornamented with one of them, cut Brilliant-Fashion, which look'd like a *Bristol Stone*.

THE Island of *Montserrat* is mountainous, but its Valleys are well water'd and fruitful. The Mountains are cover'd with Cedars, Cypresses, Iron-trees (so call'd from the Hardness of the Wood) and Variety of Shrubs and Plants, particularly one call'd the *Musk-herb*, which grows like a Bramble, but is not prickly, and bears yellow Flowers, which are succeeded by Pods full of Seeds that smell like Musk. Indigo and Sugar are its chief Commodities, but it is not reckon'd so good as that of *Jamaica* and *Barbadoes*. In short, it is a well-planted Island, and pretty much frequented by Shipping, but it is so surrounded with Rocks, that
the

the Riding before it is unsafe, and it has no Place that can properly be call'd a Haven.

WE find nothing more remarkable relating to *Montserrat*, than the dreadful Hurricane which happen'd there on the 29th and 30th of *June 1733*; and blew down three Fifths of the Houses in the Island. On the 29th there were thirty-four Wind-mills going, many of which were entirely destroy'd. A large Copper, that held two hundred and forty Gallons, was carried over a high Wall, and beat close together by the Fall. An empty Sugar-Hogshead was lifted off the Ground by the Wind, and carried thirty or forty Yards over a Dwelling-house. But what is most surprizing of all, a Cattle-Mill House, weighing at least twenty thousand Pounds, was carried some Distance from its Situation, and by the Force of the Fall was broke into innumerable Shivers. Such Havock was made among the Sugar-Canes, that some Planters, who had a Prospect of making two or three hundred Hogsheads the next Year, would gladly have compounded for sixty or eighty. In a Word, the whole Damage, exclusive of the Shipping, was reckon'd not less than fifty thousand Pounds of their Currency.

THE rest of the *Carilbee* Islands possess'd by the *English* are too inconsiderable to detain the Reader with an Account of their Productions; but we think it not improper, before we take
our

our Leave of the *British* Colonies, to give some Account of the *Bermudas*, or *Summer Islands*, which lie a great way North of the *Caribbees*, in the same Latitude with *South Carolina*, which is the nearest Land to them, and yet that is about three hundred Leagues distant. Their first Name they had from *John Bermudes*, who discover'd them in 1503; and their second from *Sir George Sommers*, who was shipwreck'd upon them in 1609, since which they have been corruptly call'd the *Summer Islands*. They are many in Number, but most of them are small, barren, and uninhabitable. The largest of them, call'd *St. George*, is about sixteen Miles long, and three over where broadest, and is surrounded with high Rocks which jut a good way into the Sea, and serve it instead of a strong Rampart.

WHEN the *English* first settled here, they found themselves infested by such vast Numbers of large Rats, as devour'd all their Provisions both in their Houses and in the Field, and were like to have caused a Famine and overthrown the Settlement. At length however they found Means to rid themselves of those destroying Vermin, and have since so well improved their little Plantation, that the Number of *English* Inhabitants are computed to be above ten thousand, (besides Slaves) who carry on a good Trade in Tobacco, of which they have large Crops, but far inferior in Goodness to that of our other Plantations. They have like-

likewise some Cochineal, take some Pearls on their Coasts, and some small Quantities of Ambergrise; and these are the chief Articles of their Commerce, for the Security of which they have built no less than ten Forts, most of them well mann'd and arm'd, and all kept in good Repair.

THE Country is mostly mountainous, but it has fertile Plains. The Soil is of various Colours, some brown, (which is esteem'd the best) some whitish, and some reddish, not unlike Potter's Clay. Two or three Feet below the Mould there lies a white hard Body, which the Inhabitants call the Rock, but seems rather to be a Sort of Chalk or Pumice-stone, through which however the Roots of the Trees force themselves a Passage. Upon the whole, though the Soil is thin and stony, it is very fruitful; the Climate is temperate, yet warm enough to produce two Crops in a Year; but the Water is generally brackish and disagreeable, except that which falls from the Clouds, and is preserved in Cisterns.

THIS Island produces some fine Fruits, especially Oranges, which are reckon'd very delicious, and used formerly to be brought into *Europe*. The Cedars that grow here are said to excel in many Respects those of other Parts of *America*, particularly in the Fragrancy, Durableness, Beauty, and Hardness of their Wood; and here is such Plenty of them, that they are used in building Sloops, Brigantines, and other Vessels,

as well as in their Churches and some of their Houses: And it is to be observ'd, that Ships built at *Bermudas* are reckon'd as good as any throughout the *West Indies*.—Their *Palmetto*, or wild Palm, is also very useful, the Wood being serviceable for Building or Fuel, and the Leaves, which are eight or ten Feet long, making a good Covering for their Houses.

THE Woods of *Bermudas* afford several medicinal Vegetables, and among the rest one that bears a Berry of a styptic Quality, used by the *English* to cure those Fluxes with which they are commonly afflicted by eating too frequently of the Palm berry or other delicious Fruits. But there are two Plants particularly remarkable and singular, the one for its Use, the other for its Noxiousness. The first is the *Red Wood*, so call'd from its fine Tincture, especially that of its Berry, from whence proceed little Worms, which afterwards become Flies, some of them larger than the *Cochineal-Fly*, and said to exceed that in its medicinal Virtue. The other is a Weed which grows much like our Ivy, and, according to the Account of a Gentleman who had resided a long time at *Bermudas*, is of so poisonous and subtil a Nature, as to affect a Person only passing by it without touching it, in such a Manner as to peel the Skin off his Face. However, it appears by the Gentleman's Account, that it does not affect all Constitutions alike, since he himself tells us, that he had chewed it in his Mouth without feeling any Incon-

convenience. This is said to be the only Plant of a poisonous Nature in the whole Island.

THERE are such Numbers of Tortoises caught at *Bermudas*, that the Inhabitants make them their common Food, their Flesh being very white, tender, and delicious. They have a surprizing Variety of Fowls, such as Swans, Ducks, Widgeons, Teals, Snipes, Hawks of severals Sorts, Storks, Herons, Bitterns, Cormorants, Baldcoots, Moorhens, &c. besides a Multitude of Sparrows and other Birds of the smaller Kind. There is likewise a Sort of Water-Fowl peculiar to these Islands, which are call'd *Cowkoes*, and hatch their Young in Holes and Burrows of the Rocks like Rabbits. They are as big as a Sea-mew, and were formerly in great Plenty; but being of so gentle a Nature as to be easily caught, and withal very good Food, the Inhabitants have made such Havock among them, that they are now rather scarce than numerous.—The *Tropic-Bird* is also frequently seen about *Bermudas*, which is a high-soaring Bird, about the Bigness of a Partridge, of a milk-white Colour, with a Tail consisting only of one single white Feather a Foot and a half long. These Birds are commonly met with about the *Tropics*, whence their Name, and often many hundred Miles from Land; which may also be said of the *Sheer-water*, a brownish colour'd Fowl, almost as big as a Goose, which is very strong-wing'd, and frequently alights on the Ocean.

THEY

THEY have such Plenty and Variety of Fish about these Islands, that they have not yet found Names for many Sorts of them, both of the scaly and shelly Kind. Some Whales are caught upon their Coasts, chiefly in *February*, *March*, and *April*; but all their Attempts to establish a Whale-Fishery have been unsuccessful. The *Bermudans* formerly drove some Traffick in *Sperma-Ceti* and Train Oil, but that Branch of their Commerce is now decay'd.

IT is said there are no venomous Creatures of any Kind in *Bermudas*, but perhaps a greater Variety of Insects than in any other of our Plantations in Proportion to the Bigness. Amongst these their Spiders are very remarkable, whose extraordinary Size and the Strength of their Webs we have already taken notice of from good Authority*, and shall here describe the Animal a little more particularly. The Bodies of these Spiders consist of two Parts, one flat, the other round, and both together, with the Legs stretch'd out, are large enough to cover a Man's Hand. This monstrous Bulk makes them look frightful, but the Beauty and Variety of their Colours in some measure takes off the Distaste. The round Part of their Body is shaped much like a Pigeon's Egg, and under the flat Part grow their Legs, five on each Side, with four Joints, and Claws at the End. They have a little Hole in their Backs, and

* See p. 265 of this Volume.

their Mouths are cover'd with greyish Hairs, intermix'd with some bright Red, and have a crooked Tooth on each Side, of a hard polish'd Substance, and of a bright shining Black; so that they are often set in Gold and Silver, to serve for Tooth-picks. When these Creatures grow old, they are cover'd all over with a Sort of Down, of a brown or blackish Colour, very smooth, soft, and shining like Velvet; and it is said they cast their downy Skins every Year, as well as the two Teeth just mention'd. They shew a wonderful Skill and Agility in spreading their Webs from Tree to Tree, which, as before observ'd, are very large and strong.

THESE Islands, like the *Caribbees*, are subject to violent Hurricanes and Thunders; but, upon the Whole, the Inhabitants seem to be happy in the Pleasure and Plenty of their Country, which they look upon as a safe and quiet Retreat from the Cares and Troubles of the World. They enjoy a pure sweet Air and temperate Climate, the Heat being moderated by constant Sea-Breezes; and, in short, they have such a Reputation for their Healthiness, that they are resorted to as the *Montpelier* of *America*. Mr. *Stafford* (in *Phil. Trans.* N^o 40.) tells us, that People there frequently live a hundred Years or upwards*, and that they

* A hundred Years is certainly a great Age, and what very few arrive at, compared with the Bulk of Mankind, whose Longevity dwindled as the World was peopled, die

die of Age and Weakness, rather than any Disease.

To return to the *Caribbees*: The largest and one of the finest Islands possess'd by the *French* in those Parts is *Guadaloupe* or *Guardaloupe*, though it is not near so populous as *Martinico*. Since the Beginning of the present Century, however, this *French* Colony is very much improved, and is reckon'd to contain ten thousand *European* Inhabitants, besides thirty thousand *Negroes*, and to make more Sugar than any of the *British* Islands except *Jamaica*. The

till it came down to seventy or eighty Years, and there it stood and has continued to stand ever since the Time of *Moses*. In our own Country we have some extraordinary Instances of long Life, as that well known one of old *Parr*, who lived a hundred and fifty two Years and nine Months. But *Parr* was considerably exceeded by *Henry Jenkins*, who (as *Dr. Robinson* informs us in *Phil. Transf.* N^o 221.) died in 1670 at *Ellerton* on *Sawale* in *Yorkshire*. He was about twelve Years old when the Battle of *Floddenfield* was fought, which happen'd on the 9th of September, 1513; so that he lived a hundred and sixty-

nine Years. His Diet was generally coarse, and in the last Century of his Life he was a Fisherman, but towards the End of his Days he begg'd up and down. He had sworn in Chancery and other Courts to above a hundred and forty Years Memory; and *Dr. Robinson* was told by some *Yorkshire* Gentlemen, that *Jenkins* frequently swam the Rivers after he was past the Age of a hundred Years. — Add to these Instances those of the Countess of *Desmond*, and *Mr. Ecclestone*, both of *Ireland*, who each lived to above a hundred and forty Years of Age.

Island is well water'd, the Air clear and wholesome, and the Soil is fertile, producing, besides Sugar, Cotton, Indigo, Ginger, Tobacco, Cassia, Pine-apples, and Plenty of Rice, Maize, and Potatoes. Some of its Mountains are overgrown with Trees of various Kinds, and amongst them there is a Volcano continually smoaking, which gives a sulphureous Taste to the Rivers that have their Rise near it: There are also several boiling Springs in the Island, which are said to be good for the Dropsy and other Distempers.

AMONGST the Vegetables of *Guadaloupe* Father *Labat* found the *Copau-tree*, famous for its healing Balsam or Oil, which he says he had sought for in vain throughout all the *French* Islands. This Tree grows to the Height of about twenty Feet, having a Leaf like that of an Orange-tree, only somewhat longer and more pointed, and of an aromatic Smell; as is also its Bark when rubb'd between the Fingers. The Balsam is obtain'd by making Incisions in the Bark of the Tree, and is recommended by the above-mentioned Father as a Specifick for almost all Maladies, both internal and external. —Here *Labat* likewise found the *Milk-Shrub*, whose Leaf resembles that of the Laurel, only it is larger, thicker, and softer; and its Fibres, when press'd, yield a Liquor just like Milk both in Colour and Consistence. It bears Flowers much resembling those of *Jessamine*, being white, and containing in the Middle a little oval Bud,

Bud, which incloses two small black Seeds, from whence the Plant is propagated. Its Bark is of a pale Green without, and white within; and its Pith is like that of Elder. *Labat* attributes to its Juice almost as many Virtues as to the Balsam of the Copau-tree.—In *Guadaloupe* there is also a Tree call'd *Corbary*, which bears Fruit in a Shell containing a Pulp of a Saffron-Colour, and yields a Gum, which being harden'd in the Sun is very transparent; so that the native *Caribbees* used it for Bracelets and other Ornaments.

As to the Animals of this Island, they are in general the same with those of the neighbouring ones already described; but there is a Bird of Passage, which *Labat* says he met with in none of the Islands but this and *Dominica*. It is about the Size of a young Pullet, and its Plumage is as black as Jet; its Wings are long and strong, its Legs short, its Feet like those of Ducks, but arm'd with strong Claws, and its Beak crooked, sharp-pointed, and extremely hard. It has large Eyes, with which (like an Owl) it sees best in the Night, when it catches Fish out of the Sea, which are its only Food; and if these Birds are disturb'd in the Day-time, the Light so dazzles their Eyes, that they fly against a Tree or any Object in their Way. Our Author supposes they are the *Devil-Birds*, that are seen in *Virginia* and the adjacent Countries from *May* to *October*. From the Beginning of *October* to the End of *November* they

stay at *Guadaloupe*, after which they are not seen till about the Middle of *January*. There is a Mountain in the Island, from these Birds call'd the *Devil's Mountain*, where they lodge in Holes like Rabbits, flying out to Sea in the Evening, and returning to the Mountain in the Morning. Here they lay their Eggs and hatch their Young, which are ready to fly about the End of *May*, and are very tender Food, but their Fat is like so much Oil. The Flesh of the old ones is blackish, and has a fishy Taste, but otherwise it is very good and nourishing. The Negroes and poor People have scarce any other Sustenance than these Birds during the Season; and *Labat* thought it a great Providence that they harbour'd in Places so difficult of Access as he found the above-mention'd Mountain, otherwise the *French* would long ago have destroy'd the Species.

FATHER *Labat* tells us, that he once indulged his Curiosity to accompany four Negroes in this Kind of Fowling, not without great Fatigue and Danger. It took them up six Hours to get to the Top of the Mountain, where they lay all Night; and next Morning, when the Birds were return'd from their Fishery, the Negroes repaired to their Holes, with Dogs train'd up to the Sport. Each Negro carried a Switch in his Hand seven or eight Feet long, with a Crook at the End of it; and as soon as the Dogs, which smelt at every Hole, had discover'd one with a *Devil* in it, they bark'd, and began

began to scratch up the Ground at the Entrance; but they were prevented from doing this by the Fowlers, who thrust their Switches into the Holes, on which the Birds either fasten with their Beak, and suffer themselves to be dragg'd out rather than quit their Hold; or else the Crook is turn'd round the Hole till one of the Wings is entangled by it, and so the Bird drawn out by Force. Our Author adds, that by Noon they had taken a hundred and ninety-eight of these Birds, and acknowledges that he fed on them very heartily.

THE same Father visited the next Hill, call'd the *Sulphur Mountain*, the Top of which he found bare, except that a little Fern grew on it, and some sorry Shrubs cover'd with Moss; which he ascribed partly to the Cold of so high a Situation, and partly to the sulphureous Exhalations. He walk'd round the Hill three Hours and a half, among burnt Stones and whitish Ashes, which in some Places were above his Ancles, and smelt strongly of Sulphur. On the East Side of the Mountain he saw two Mouths, one of which was an oval Hole, about a hundred Feet in its greatest Diameter; but he would not venture near enough to fathom the Depth of it, because it now and then sent out black Clouds of Smoke, accompanied with Sparks of Fire. A little below the least and lowest of these Mouths there are three little Pools of very hot Water, one of which is dark-colour'd, and smells like Iron, or rather like the

the Water in Smiths Forges; the second is whitish, and has the Taste of Alum; the third is blue, and tastes like Vitriol. The Negroes who sell Brimstone fetch it from this Mountain, the Middle and lower Part whereof are quite different from the Top, being cover'd with a pleasant Verdure of tall Trees and Herbage, water'd with many Rivulets, and cultivated with all possible Care and Industry.

It is observable that the Bees of *Guadaloupe* (and we suppose of the neighbouring Islands) differ considerably from those of *Europe* in Size and Colour, as well as in the Structure of their Honey-combs, and the Quality of their Wax and Honey. The Bees are blacker and rounder than ours, but much smaller; nor do they seem to have any Sting, or, if they have, it is too weak to pierce the Skin. Their Nests are in hollow Trees, and their Combs consist of little Bladders of Wax, of the Form and Size of Pigeons Eggs, but more pointed, and almost like the Bladder of a Carp. They deposit their Honey in these Bladders, which, though they may be easily separated from one another, are so artfully disposed and ranged, that there seems to be no Vacuity between them. Most of the Bladders are fill'd with Honey, but in some of them there is a yellow Matter, seeded like the Eggs of a Fish, glutinous, and smelling like Honey. The Honey is always liquid, of the Consistence of Olive-Oil, and never settles. The Wax is black, or at least of a deep purple Colour;

lour; and Father *Labat* says, that all the Art of his Countrymen could not make it either white or yellow, so be as to be fit for Candles; besides that it is too soft for that Purpose, and is scarce used for any thing but to cement the Corks of Bottles after it is thoroughly purified.

THE next Island to *Guadaloupe*, belonging to the *French*, is *Marigalante*, which, according to *du Plessis*, is full of Hills, and yields Plenty of Tobacco. *Tertre* says, that it has several Springs of fresh Water, and a large Grotto with a River in it, which runs a good way under Ground, and abounds with large Crabs. He adds, that there are several other large and deep Grottos in this Island, which they call by the Name of *Saints*; and that for several Miles along the Coast there are vast high Rocks, as even as if they had been cut by Art, and as full of Holes as a Pigeon-house, which are much frequented by the *Tropic-Birds* already described. —Among the Fish that are found about this and the neighbouring Islands are the *Lamantins*, or Sea-Cows, which bring forth two young ones at a time, and suckle them with their Milk like Calves. There is also a Fish call'd *Recune*, about eight Feet long, that kills other Fishes by its Bite, which is said to be as poisonous as that of a mad Dog.

BETWEEN *Guadaloupe* and *Martinico* lies *Dominica*, to which both the *French* and *English* lay Claim, but which, as far as we can learn, is chiefly inhabited by the *Caribbees*, the Posterity of the People who were originally possess'd of the Islands we have been describing, and which still bear their Name, though they have been entirely driven out of most of them, to make Room for the Colonies of the several Nations of *Europe*. Its Soil and Produce is much the same as those of the other *Caribbee* Islands; and some Travellers say it is one of the best of them, for its fine Rivulets, and fruitful Plains and Valleys. Amongst its Mountains there is one impregnated with Sulphur, like that at *Guadaloupe*, but not near so high; and *Roche-fort* says there are inaccessible Rocks, on the Tops of which may be seen Serpents of a prodigious Bulk and Length. Its vegetable Productions are such as have been already describ'd, and it is particularly remarkable for fine Figs, which the Natives gather before they are ripe, and eat with their Food, suffering the rest to fall and rot on the Ground. The Rivers of this Island abound with excellent Fish, and especially Eels, some of the finest and largest in the World.—*Labat* says, that in *Dominica* and the other Islands there are certain Stones found in the Sands, call'd *Eye-stones*, but that those of *Dominica* are reckon'd the best. They have their Name from the Use which is made of them to clear the Eyes of any Dirt that may happen

happen to trouble them, which they do by their Form, and not by any peculiar Virtue, for being shaped like a Lentil, but much smaller, and extremely smooth, when any thing is got into the Eye, they put one of these little Pebbles under the Lid, and the Motion of the Eye turning it round the Ball, it pushes the Dirt before it, and then falls out of itself.

WE now come to *Martinico*, one of the largest of the *Caribbee* Islands, and the richest, best planted, and strongest of all the *French* Island-Colonies in *America*. On the Coast there are several fine Roads, Creeks, and Harbours, and its Forts are strongly garrison'd by regular Troops from *France*; besides which they can muster a Militia of ten thousand fighting Men. The Middle of the Island is full of Hills, which give Rise to several Rivers, that sometimes overflow their Banks, and carry away Trees and Houses. Some of these Hills are cultivated, and others overgrown with Trees, which afford Shelter to wild Beasts and abundance of Serpents. Tobacco is planted on the Sides of the Hills, which is reckon'd better than what grows in the Valleys. The other Produce of the Island is much the same as that of *Barbadoes*, viz. Sugar, Cotton, Ginger, Indigo, Aloes, &c. The Coast abounds with Tortoises, which make a considerable Part of the Food of the Islanders, who likewise eat a great many Frogs and Lizards.

ANOTHER pretty large Island belonging to the *French* is *Granada*, which enjoys a good Air, and has a Soil exceeding fruitful. It abounds with fine Timber as well as Fruit-trees; but its most remarkable Production of this Kind is the *Latin-tree*, which has a tall Trunk, and, instead of Boughs, bears Leaves like Fans, with long Stalks, which being tied together serve to cover the Roofs of Houses. Here are abundance of Armadillo's, whose Flesh is said to be as good as Mutton, and is the chief Food of the Inhabitants. It produces Sugar, Ginger, and Tobacco, and is water'd by several Rivers that flow from a Lake at the Top of a Mountain in the Middle of the Island.

HERE we mighttake a View of some Islands belonging to the *Dutch* on the Coast of *Terra Firma*; but as they afford us nothing very remarkable, and we are unwilling to detain the Reader about what is frivolous and not worthy his Attention, we think it proper to put a Period to our Undertaking, wishing that every one who peruses it may be induced to love and adore the great Author of Nature, whose Works are wonderful, and whose Power, Wisdom, and Goodness appear throughout the whole Creation.

APPENDIX:

CONTAINING

Useful REFLECTIONS on the Whole.

FROM the foregoing Survey of the Wonders of Nature, it must appear to every one, that *God's Works are great and excellent*, worthy to be observed with the utmost Attention, and not in a careless and incurious Manner. Some of our best modern Books have been represented as containing nothing but trivial Matters, when in reality they are full of noble Discoveries of the wonderful Parts of the Creation: And indeed those Parts which are most slighted, and look'd upon with the greatest Indifference, are found upon Examination to be admirable in their Contrivance and Structure, and glorious Instances of the Wisdom and Power of the Creator. So far then are the Works of the Lord from deserving to be disregarded, that they ought to be *sought out*, and curiously *pried into*, by all who are capable of so rational an Employment.

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THAT

THAT such Enquiries are commendable is scarce to be doubted, since we cannot suppose that God would have bestowed so much exquisite Workmanship and Skill upon his Creatures, to be look'd upon with a careless Eye, much less to have them slighted and despised. When therefore those who make Researches into the Works of Nature are ask'd, To what Purpose such Enquiries, such Pains, such Expence? the Reply is obvious, It is to answer the Ends for which God employ'd so much Wisdom and Power about them, and gave us Senses to view and survey them. This is following and tracing him whither he himself leads us, that we may see and admire his Handy-work ourselves, and so set it forth to others, that they may see, admire, and praise it also.

BUT indeed there is no Necessity for an uncommon and penetrating Genius, in order to be capable of observing the Wonders of the Creation, which are evident to the meanest Capacity. *Remember (says Elibu) that thou magnify his Work, which Men behold: Every Man may see it, Man may behold it afar off,* Job xxxvi. 24, 25. Since therefore the Works of God are so visible to All, and such manifest Indications of his Being and Attributes, they plainly argue the Perverseness of the Atheist, and leave him inexcusable: For even the most barbarous and ignorant Nations have from thence inferr'd the Existence of a Deity, though they have been under great Mistakes in their Notions

tions and Conclusions about him; and it is observable, that Mankind in all Ages have naturally and universally agreed in deducing their Belief of a God from the Contemplation of his Works. So that we are apt to think, a real Atheist is a Thing hard to be met with, and (if there be any such) may be esteem'd a Monster amongst rational Beings, an Opposer of all the World, a Rebel against human Nature and Reason, as well as against his God.

Now as the Works of the Creation are so many Demonstrations of the Wisdom and Power of the Creator, the Contemplation of them may serve to excite us to the constant Fear of God, and a steady Obedience to all his Laws; and thus we may make them serviceable to our spiritual, as they are to our temporal Interest: For when we consider them as the Works of our sovereign Lord and Master, to whom we are accountable for our Thoughts, Words, and Actions, this will make us afraid of offending, and desirous of obeying and pleasing him who is so wise and powerful a Being, and on whom alone our Life and Happiness depend. This will lead us to pay him that Homage and Worship which his great Mercies call for from us, and which he is entitled to by his Right of Creation and Dominion.

LASTLY, That infinite Goodness which appears in all the Works of God will naturally tend to excite in us due Thankfulness and Praise. Whoever peruses the foregoing Sheets, or opens his

his Eyes to survey the Wonders that surround him, must needs admire the Kindness God hath shewn to his Creatures, in providing every thing conducive to their Life and Prosperity, in contriving and forming them in the best Manner, placing them in those Parts of the Globe that are most agreeable to their Nature, and accommodating them with every thing that may minister to their Health, Happiness, Occasions, and Business in the World. Upon this Account Thanksgiving and Praise is so just a Debt to the Creator, that the *Psalmist* calls even upon inanimate Beings, the *Sun, Moon, and Stars, the Hail and Snow, the Mountains and Hills*, to join in the Tribute; but in a particular Manner are Mankind of all Ranks and Orders, all Ages and Sexes, charged with this Duty: *Let them praise the Name of the Lord, for his Name alone is excellent; his Glory is above the Earth and Heaven, Psalm cxlviii. 13.*



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